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ABSTRACT

This annual statistical report describes conditions in education and conditions in the larger society that affect education. Statistical data are presented on issues concerning educational institutions, participants, and personnel. The report is organized to reflect the characteristics of the educational system and its relationship to the larger society. The first section of this report describes trends and developments affecting education at all levels. Chapter 1 discusses such issues as the family, work, and the community in an effort to describe the societal context of education. Chapter 2 covers such facets of elementary and secondary education as enrollment, progress through school, school environment, and teachers. Chapter 3 examines postsecondary education, including occupational and adult education, and students, instructional faculty, and finance in higher education. In the second section of the report special topics have been selected for closer analysis. Chapter 4 looks at the financing of elementary and secondary education, chapter 5 examines outcomes of education, and chapter 6 explores the status of minorities and women in higher education. (Author/JM)

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The Condition of Education

1979 Edition

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Statistical Report

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On the Inside

Social Context

- A majority of full-time college students have family heads with some college experience (entry 1.1).
- Most young adults who attend college also work; 89 percent of the part-time and 43 percent of the full-time students are in the labor force (entry 1.8).
- Young adults with college degrees are more satisfied with their jobs than high school graduates with less education (entry 1.12).
- The public favors allowing high school juniors and seniors to earn course credit for community service but only 14 percent of public high schools offer such credit (entries 1.17 and 2.14).
- Seventeen-year-olds who spend more than 10 hours weekly on homework and less than 1 hour nightly watching television scored higher on the math assessment (entry 5.3).

Elementary and Secondary Education

- Test scores show that students were less knowledgeable about governmental affairs in 1976 than in 1969 (entry 1.16).
- While the number of 3- to 5-year-olds continues to decline, a greater proportion—now almost 50 percent—are entering preprimary programs (entry 2.1).
- A smaller proportion of whites were enrolled in private elementary schools in 1977 than in 1967, while the reverse was true for blacks (entry 2.3).
- Since 1950, the proportion of students enrolled below the modal grade has decreased sharply. The majority of the public supports grade promotion by examination (entries 2.6 and 2.9).
- A majority of teenagers, both above- and below-average students, think school work should be harder (entry 2.12).
- Secondary school principals report that the greatest change in schools in the past five years has been the increased emphasis on basic reading, writing, and math skills (entry 2.13).
- Costs for public school transportation have risen sharply since 1968, with over half of pupils being transported at public expense in 1976 (entry 4.10).
- High school graduates saw a greater need for basic academic preparation in high school four years after graduating than they did as seniors (entry 5.9).

Postsecondary Education

- Over 20 percent of students enrolled in occupational programs have had at least some previous college experience (entry 3.2).
- In 1976, enrollments in institutions of higher education dropped for the first time since 1951, but rose again to an all-time high in 1977 (entry 3.6).
- Though high school graduation rates remain highest for whites, since 1975, black and Hispanic high school graduates have enrolled in college at higher rates than white graduates (entry 3.10).
- Between 1970 and 1977, smaller proportions of freshmen entered college directly after high school. The proportion of students delaying entry into college increased by over 10 percent (entry 3.12).
- Tuition and fees remained fairly constant for public institutions between 1968 and 1977, though these charges rose slightly at private schools. A plurality of the public favored raising the Federal income ceiling for grants and loans (entries 3.18 and 3.19).
- One-fourth of all entering college freshmen expressed a need for remedial work in math (entry 5.8).
- Among recent bachelor's degree recipients, women earn lower salaries than men in almost every field. Of recent white and black recipients, white women earn the least (entries 6.12 and 6.13).

The Condition of Education 1979 Edition

Statistical Report
National Center for Education Statistics

By Nancy B. Dearman
and Valena White Plisko

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National Center for Education Statistics

"The purpose of the Center shall be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall . . . collect, collate, and from time to time, report full and complete statistics on the conditions of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics; . . . and review and report on education activities in foreign countries."—Section 406 (b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e–1).

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Foreword

The Condition of Education is the annual statistical report describing conditions in education as well as those in the larger society that affect education. It is prepared by the National Center for Education Statistics as required by Public Law 93–380, Title V, Section 501 (a). This is the fifth such report.

In this year's report, statistical data are presented on a variety of issues concerning educational institutions, participants, and personnel. The report is organized to reflect the characteristics of the education system and its relationship to the larger society. The first section of this report describes trends and developments affecting education at all levels. Chapter 1 deals with the societal context for describing the condition of education, chapter 2 covers elementary and secondary education, and chapter 3 examines postsecondary education. In the second section of the report, special topics have been selected for closer analysis. Chapter 4 looks at the financing of elementary and secondary education, chapter 5 examines outcomes of education, and chapter 6 explores the status of minorities and women in higher education.

The narrative for each chapter refers to data presented in chartbook form. Each entry on a topic consists of a table and a chart, which are presented together. The data highlighted in the chart, and briefly described in a statement accompanying the chart, are extracted from the facing table. Data used in the chart appear in boldface type in the table, which may be readily consulted for further information.

An effort was made in preparing this report to address a broad range of significant issues at all levels of education. Data on emerging as well as recurring issues are reported. Many of the statistics presented here relate to issues not included in previous editions of this report. To aid readers desiring statistics on other topics or more data on a particular issue, a cumulative index lists topics and data shown in the 1976, 1977, and 1978 editions, as well as in the present edition.

Part Two of this report contains a description of the activities of the Center for fiscal years 1979 and 1980. We hope that this report will be helpful to the reader in understanding the information and services available in the National Center for Education Statistics.

Marie D. Eldridge
Administrator
National Center for Education Statistics

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The Condition of Education

I An Overview of Education

Chapter 1
The Social Context of Education

Education is a network of relationships among people, a system with links to the family, the work force, and the community. This initial chapter is designed to illuminate these linkages between education and other social institutions. By examining recent trends within the family, the work force, and the community, it suggests the impact that changes in other systems may have on education. It also examines the converse, that is, the influence that education exerts on other social institutions and on the roles that Americans occupy as parents, workers, and citizens.

Education and the Family

Educational attainment is closely linked to family background. Presenting the educational status of family members by the educational attainment of family heads indicates the importance of family background (entry 1.1). The lower limit to educational attainment of family dependents has been based traditionally on the level attained by family heads. In general, dependents have tended to attain levels of education similar to or somewhat higher than those completed by family heads.

Most high school dropouts have family heads with only limited schooling. Two-thirds of family members who dropped out of high school have family heads who never finished high school. Most high school graduates with no college experience have family heads who did not go beyond high school. Similarly, a majority of family members who are full-time college students are from households in which the heads had some college training.

Appreciable gains in educational status have been made in a single generation by some racial/ethnic groups. Progress is particularly pronounced among blacks and is also evident to a lesser extent among Hispanics. Most black and Hispanic family members have family heads with fewer than 12 years of schooling. Although minority members in college tend to have better educated family heads than blacks and Hispanics in general, about two-fifths are from families in which the heads have less than a high school education. Only one-fourth of black college students have family heads with any college experience. Equal proportions of Hispanic college students come from families headed by high school dropouts and from families with college-educated heads.

The first feature most readily apparent about the contemporary American family is its shrinking size. Within this decade, the average number of persons in family households declined from 3.61 persons in 1970 to 3.37 persons in 1977. Some of this decline can be attributed to more young adults and more senior citizens setting up independent households. Most of the decline is the direct result of the low birth rate among young women of childbearing age.

Although the proportion is down slightly from 1970, 54 percent of all families have children under 18 years old. If the number of children were evenly distributed among all families with children, each family would have an average of 2.04 children. In 1965, the average was 2.44 children.

Fewer children in the family, as in the classroom, may contribute to more favorable conditions for raising the young. Smaller families may mean that parents have more time, energy, and assets to devote to their children's education. Yet, as in the classroom, other obligations may compete for these resources. Parents may be less able or willing to sacrifice for children because of competing demands from work or other interests outside the home. Whether parents today devote more of themselves to their children's education than was the case in the past remains conjectural. The only information currently available is from parents' reports of their own involvement in a recent Columbia Broadcasting System (CBS) survey. According to these subjective estimates, at least, parents indicated that they are more involved in their children's education than their own parents were when they were young.

Although each family with children averages two children, not all families have two parents (entry 1.2). This introduces a second phenomenon of modern American family life, single parenthood. The vast majority of children, nearly four-fifths, live with both parents. Yet, this proportion has fallen substantially over the last several years. The decline is evident among whites and particularly among blacks. About 85 percent of white children lived with both parents in 1977, compared to 92 percent in 1960. Fewer than half of all black children lived with both parents in 1977, in contrast to almost two-thirds 17 years earlier.

Some observers view the proportion reported living in traditional mother-father households as too high, because this percentage includes a growing proportion of children living with the mother and a stepfather. According to 1976 Foundation for Child Development estimates, 7 percent of 7- to 11-year-olds reside in these mother-stepfather families. This percentage, combined with the proportion of children in the one-parent families, represents at least one-fourth of American children who have experienced some family disruption through death, desertion, or more often, divorce.

Among children under 18 in one-parent households, most live with their mothers only. Sixteen percent of all children in 1977 were living in female-headed families, twice the proportion in 1960. Among black children, the proportion is much higher—almost 42 percent. Another 9 percent of black children live in households where neither parent is present, a percentage much above the national figure.

The impact of the female-headed household on the education of children is unclear. Families with female heads do have certain features negatively associated with the education of children, not the least of these being depressed family income. Low income, combined with lower educational attainment of female heads and less time to devote to their children, may place additional demands on the schools.

A third phenomenon of the modern American family is the working mother. As reported in last year's edition of this report, the proportion of school-age children with working mothers has risen appreciably in the 1970's. This trend continued in 1978 with over 53 percent of children 6 to 17 years old living with mothers who are in the labor force.

According to self-reports on the CBS poll, working mothers are as likely to be involved in their children's education as mothers not in the labor force. When asked to what extent parents participate in their children's educational activities, participation reported by working mothers was no different from that of nonworking mothers. Indicators are not currently available to show how family childrearing practices may be changing as a result of the greater labor force participation of mothers. Many analysts suggest that this trend may result in greater sharing of childrearing responsibilities between parents. Both parents working may also increase the role of the schools in providing child care.

A fourth feature of the American family likely to affect education is the increasing educational attainment of parents (entry 1.3). Consistent with the general trend toward a better educated populace, there has been a rise in the level of parents' education. Over the past decade, educational attainment of family heads with children rose for all types of families. It was reported in 1978 that more than one-third of fathers in two-parents families had gone to college and one-fifth had graduated from college. Fewer than one-third had not graduated from high school, a significant reduction since 1970.

Educational attainment of mothers heading single-parent families tends to be much lower than the level of schooling of fathers heading two-parent families. A large proportion, 43 percent, of female heads in 1978 did not have a high school education. It is also noteworthy that the percentage of female heads with 4 years of high school or with 1 to 3 years of college is much the same as the percentage among fathers in two-parent families. It is at the bottom and at the top of the educational scale that the attainment of female heads is very different from that of heads of two-parent families.

The higher overall educational attainment of family heads can be attributed to several factors. The development reflects the overall trend in higher education among the adult population. The massive influx of GI Bill recipients into higher education after World War II contributed to this general growth. The need for advanced training to meet job requirements has resulted further in a longer period of schooling. In more recent years, extension of postsecondary education to adults beyond the traditional college age also has contributed to greater attainment. Adult education courses have attracted many parents with school-age children. As reported in a recent Gallup poll, parents with children in school were more likely to report that they have taken an adult education course than respondents without children.

The benefits which are associated with higher educational attainment in the general population apply to parents and their children as well. Educational advantages appear transferable from parent to child. Higher parental education has been shown consistently to be related to higher achievement of children as students and as young adults. As previously discussed, children tend to attain levels of education comparable to levels attained by their parents. As will be shown later, higher parental education is associated with higher test scores of students on national assessments of performance in various subject areas. Low scorers tend to be from families headed by non-high school graduates, high scorers from families with heads with some postsecondary education. However, these scores compare student achievement at one point, not over time. Whether the trend toward higher parental attainment will contribute to a generally higher level of student performance in the long run remains a research question.

Because of the rapidity of change in the American family, the effects of these trends on education are difficult to measure. One approach to gauging their impact is to measure the public's perception of them. A recent CBS poll offers some indication of the public's attitudes toward American education and the family (entry 1.4). The responses of parents with school age children are particularly noteworthy.

When asked about the effect of the one-parent family on the education of children, parents overwhelmingly responded negatively. Sixty-three percent saw single parenthood as adversely affecting education. Only 3 percent viewed it as having a positive effect.

The effect of the mother working was also seen negatively. Despite the fact that a majority of mothers with school-age children now work, forty-six percent of the parents viewed mothers who work as having a bad effect on their children's education. Of the working mothers polled, most viewed working more ambivalently; 28 percent saw working negatively, 12 percent positively, and 45 percent neutrally.

The poll also asked parents' opinions on the effects of influences outside the family. Television in general was viewed negatively but children's programming was seen quite positively. Racial integration was most often viewed neutrally; about the same proportion saw it positively as negatively. The effect of busing on the education of the children involved was more negatively viewed.

Because the school-age child's time is divided among the school, the family, and the television set, a closer examination of the relationship between television, the family, and children's education is warranted. As estimated by the Neilsen Rating Service, 97 percent of all households own television sets and 45 percent own more than one. According to Parent and Teachers Association estimates, by the time students graduate from high school, they have averaged 11,000 hours in the classroom and 15,000 hours in front of the television.

The CBS poll asked parents whether they set rules about television and schoolwork (entry 1.5). About one-fourth of parents indicated that they do not restrict their children's television viewing time or the programs that their children watch. There were slightly more parents responding that they enforce such rules all the time than there were who responded that they did not enforce such rules at all. According to their responses, parents are more likely to enforce study hours than restrict television viewing. The overwhelming majority indicated that they enforce study hours at least occasionally.

In the same poll, most parents reported that they are involved in their children's education through meetings with teachers and counselors. Only 6 percent said that they never met with their children's instructors or advisors. Most parents also indicated that they participate in the PTA at least occasionally. Far fewer perform volunteer work in the schools. Only 15 percent responded that they are active in school volunteer work. About one-third never take their children to the library.

According to the most recent Gallup poll of the public's attitudes toward education, most parents indicated that they have enough time to devote to helping their children with homework (entry 1.6). However, almost one-third said that they did not. The proportion of parents who indicated that they lack time varied by educational background. Those with less education said that they have less time. Almost half of parents with only a grade school education indicated that they could not devote enough time to assisting with homework. One-fourth of college educated parents cited a lack of time. Results by family type were inconclusive due to the high nonresponse rate to this item by parents in one-parent families.

A look at the amount of time 17-year-olds spend on homework weekly indicates that most devote only a minimal amount of time to homework (entry 1.7). A majority indicated that they spend less than one hour a school night on homework. More than 6 percent said that no homework was assigned and another 6 percent indicated that they did not do the homework that was assigned. At the other extreme, 6 percent indicated that they spent more than 10 hours on homework weekly. Later chapters will explore the association between homework and television time and performance on math exercises, as well as student attitudes about the difficulty of homework.

Education and Work

Educational status is closely related to labor force participation of young adults (entry 1.8). Among 16- to 24-year-olds enrolled below the college level, 43 percent are in the work force and of these, 18 percent are unemployed. Most young adult college students combine schooling with participation in the labor force; 43 percent of those enrolled full-time and 89 percent of those enrolled part-time are in the labor force. Their unemployment rates tend to be lower than the rate of the 16- to 24-year-old population in general.

The relationship between education and labor force participation is even more apparent among young adults who are not currently enrolled in school. Higher educational attainment is positively associated with participation in the labor force and negatively associated with unemployment. Only two-thirds of young adult high school dropouts are in the labor force and of those one-fifth are unemployed. The unemployment rate of high school dropouts is twice the rate of high school graduates with no college experience and 2½ times the rate of college graduates. About 84 percent of young high school graduates with no college experience are in the labor force and of these, 10 percent are unemployed. College graduates have the highest labor force participation rates and the lowest unemployment rates.

Race also influences the employment prospects of young adults within educational attainment levels. Among in-school and out-of-school young adults, blacks have appreciably lower labor force participation rates and substantially higher unemployment rates. Although less likely to be in the labor force, blacks are three times as likely to be unemployed as whites. Participation and employment rates of young adults of Hispanic origin fall between the rates of whites and blacks.

As shown in last year's edition of this report, the unemployment rate of black high school graduates is lower than that of black high school dropouts yet higher than that of white high school dropouts. Racial discrimination in hiring might account for some of this disparity. Differences in career skills also may contribute to higher unemployment of young blacks.

Scores on tests of career and occupational development provide some evidence of these differences in career skills (entry 1.9). In 1976, the National Assessment of Educational Progress (NAEP) tested 17-year-olds in school and out of school on exercises measuring job knowledge, attitudes, and skills. Performance of black 17-year-olds was below that of whites in nearly all areas of the career and occupational development assessment. For both the in-school and out-of-school groups, divergences were greatest in the areas of generally useful skills and knowledge about jobs. In the out-of-school group, blacks and whites were about the same in their ability to describe their perceptions of their own interests and abilities.

Blacks who were in school did not perform appreciably better than whites who were not in school. In three of the areas—values related to jobs, knowledge about jobs, and generally useful skills—average performance of black 17-year-olds attending school was the same as or below the average performance of white 17-year-olds not attending school. The performance scores combined with a high unemployment rate indicate that concern over the career preparedness of black youths appears justified.

Educational attainment is closely related to type of employment (entry 1.10). Almost two-thirds of professional and technical workers and one-third of managers and administrators have completed at least 4 years of college. A sizeable proportion of clerical and sales workers have gone beyond high school. Most blue-collar workers have at least a high school education. Only in the farmworker and private household worker category do non-high school graduates comprise a majority of workers.

Although most professional and technical workers hold college degrees, a college degree today does not guarantee professional work (entry 1.11). During most of the 1960's, college graduates entering the labor force were almost assured professional level work. Between 1962 and 1969, 73 percent of all college graduates found professional and technical work and another 17 percent found work as managers and administrators. Only a small percentage of college graduates entered clerical and sales positions, and the proportion in blue-collar and service work was negligible. At the end of this period, the job prospects for entering college graduates changed substantially. Since 1969 college graduates have faced increased competition for higher status white-collar employment. Fewer than half of the college graduates who joined the labor force between 1969 and 1976 entered professional or technical work. Although the proportion entering managerial and administrative work remained constant, the percentage in sales and clerical work rose appreciably. Almost 12 percent entered blue-collar or service jobs, and another 4.7 percent did not obtain employment. The economic slowdown during the first half of the 1970's and the drop in the demand for new teachers contributed somewhat to this turnaround. However, the single most important factor was the tremendous increase in the number of graduates seeking jobs.

Competition not only has a depressing effect on the type of work college graduates can command, it also limits the kinds of work available for non-college graduates. Although their education may not be applicable, college graduates have some hiring advantages over candidates with less education. This means stiffer competition among labor force entrants at all educational levels.

Educational attainment is also associated with job satisfaction, particularly with the intangible aspects of work (entry 1.12). More young college graduates expressed high satisfaction with their jobs than did their counterparts with less education. They did not differ significantly from other young adults in their satisfaction with pay and fringe benefits, which reflects the shorter employment history of college graduates. College graduates were much more likely to indicate high satisfaction with their occupational status and opportunities. They recognize the potential for advancement, not necessarily in their current position or with their current employer, but with the future job possibilities that higher education affords.

Education and the Community

The democratic process requires an involved and informed citizenry. A corollary of this tenet maintains that greater political involvement necessarily results from a more highly educated society. Thus, following this reasoning, political participation should rise with an increase in educational attainment. Taking voting behavior as an indicator of minimal political participation, voter participation should increase with greater educational attainment (entry 1.13). Over the last decades, however, this relationship has not been supported by the data on voting behavior. Since 1964 the proportion of the electorate voting in presidental and congressional elections has fallen. During the same period, the percent of the adult population with at least a high school education has risen from 45 to 65 percent.

Voter participation declined at all educational levels. Yet, the more highly educated were still more likely to vote than the less educated in 1976. The college educated were almost twice as likely to have voted in the presidential election as those with only an elementary school education.

A look at the political and social involvement of young adult high school graduates underscores the importance of education in participation in these areas (entry 1.14). Young adults who had graduated from high school 4½ years previously were asked to indicate whether they had participated in various activities over the past 2 years. According to their responses, young adult college graduates were far more likely to register and vote in governmental elections and belong to political organizations than their counterparts with less education. Sixteen percent of young college graduates indicated that they belonged to a political club or organization, which was 3 times as high as the participation rate of young adult high school graduates with no college experience. Less than 60 percent of the young adults who had not gone beyond high school had registered to vote. College graduates were also more often involved in work-related organizations and in community, service, or organized volunteer work. Only in church-related activities were rates comparable for young adults at different educational levels.

Part of this lack of involvement may be attributed to apathy and part to disenchantment with institutional leaders. Although last year's edition of this report noted a generally favorable trend in public confidence in institutional leaders since 1975, 1978 marked a decline (entry 1.15). As public confidence in most institutional leaders decreased, public support for the leaders in education fell to its lowest point in 6 years.

Disenchantment with the political process is one problem, ignorance is another. Results from the NAEP assessment of political knowledge and attitudes of 13- and 17-year-olds indicate that ignorance is a cause for concern (entry 1.16). A comparison of the most recent scores with those reported at the start of the decade indicates a general decline in students' knowledge of constitutional rights, the political process, and international affairs.

Except among 13- and 17-year-olds living in extreme rural areas, scores on political knowledge and attitudes dropped between the first and the second assessments. It was also disconcerting that students from low income communities in metropolitan areas scored appreciably below the Nation in both periods. The only exercises on which scores did not decline substantially were students' valuing of constitutional rights and their respect for others.

Perhaps some of the political apathy and ignorance of students may be traceable to a lack of personal involvement in their communities. According to responses to the Gallup poll, the public would favor a proposal to give high school credit to juniors and seniors for community service (entry 1.17). Eighty-seven percent of all respondents would approve of juniors and seniors earning course credit for giving service to the community. Approval was widespread among respondents with children in the public schools and respondents with no children in the schools. Students too indicated overwhelming approval for such a plan. It is noteworthy in an era of tighter budgets and curriculum that the public, parents, and students see the need for high school students to extend their educational experiences beyond the school to the community. A later chapter will show that only a small percentage of secondary schools have responded to this interest by offering course credit for community service.

Table 1.1
Educational status of family members 3 to 34 years old, by years of school completed by family head and racial/ethnic group: 1976

Racial/ethnic group and educational status	Years of school completed by family head			
	Total	Less than 12 years	12 years	More than 12 years
	Percentage distribution			
All races	100.0	32.7	36.1	31.1
High school dropouts	100.0	67.6	21.0	11.4
High school graduates, no college	100.0	46.6	36.6	16.9
Full-time college students	100.0	16.4	33.0	50.6
White	100.0	28.8	37.7	33.6
High school dropouts	100.0	63.5	23.8	12.6
High schcol graduates, no college	100.0	43.0	39.6	17.3
Full-time college students	100.0	12.6	33.4	54.0
Black	100.0	55.7	28.8	15.6
High school dropouts	100.0	79.0	12.8	8.3
High school graduates, no college	100.0	65.9	20.5	13.6
Full-time college students	100.0	43.8	29.8	26.4
Hispanic origin [1]	100.0	61.7	20.5	17.9
High school dropouts	100.0	79.2	8.2	12.7
High school graduates, no college	100.0	61.5	18.0	20.5
Full-time college students	100.0	39.1	22.7	39.1

[1] Categories are not discrete (e.g., a person may be classified in both white and Hispanic categories).

SOURCE: U.S. Department of Commerce, Bureau of the Census, *School Enrollment—Social and Economic Characteristics of Students*, P-20, No. 319, 1978.

Chart 1.1
Educational Status of Family Members by Educational Attainment of Family Head

For all racial/ethnic groups, the level of educational participation of family members rises with the level of education attained by the family head. A majority of white full-time college students are from families with heads who completed more than 12 years of school.

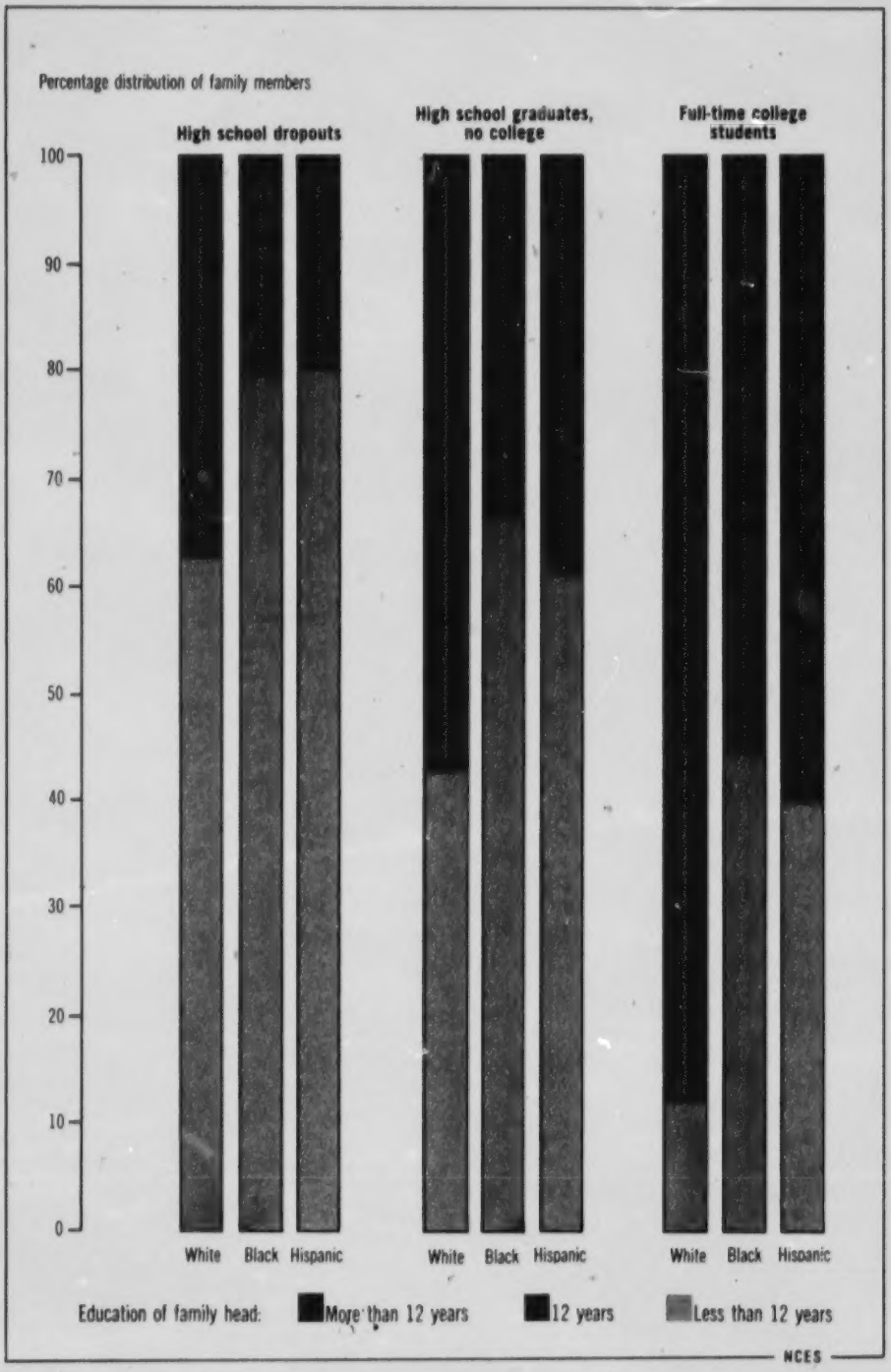

Table 1.2
Family status of children under 18, by race: Selected years, 1960 to 1977

Race and living arrangement	1960	1970	1975	1977
	Percentage distribution			
All races	100.0	100.0	100.0	100.0
Living with both parents	88.9	84.7	80.3	79.2
Living with mother only	8.1	10.9	15.5	16.3
Living with father only	1.2	1.1	1.5	1.4
Living with neither parent[1]	1.8	2.3	2.1	2.5
Not in family	NA	1.1	.6	.6
White	100.0	100.0	100.0	100.0
Living with both parents	91.9	89.1	85.4	84.8
Living with mother only	6.2	7.8	11.3	11.9
Living with father only	1.0	.9	1.5	1.4
Living with neither parent[1]	.8	1.2	1.3	1.3
Not in family	NA	1.0	.4	.5
Black	100.0	100.0	100.0	100.0
Living with both parents	69.2	58.2	49.4	46.8
Living with mother only	20.6	29.3	40.9	41.7
Living with father only	2.1	2.2	1.8	1.4
Living with neither parent[1]	8.2	8.6	6.8	9.0
Not in family	NA	1.7	1.1	1.0

NA: Not available.

[1] For 1960, includes all children in living arrangements not specified.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Female Family Heads*, P–23, No. 50; *Marital Status and Living Arrangements*, P–20, Nos. 212, 287, 323.

Chart 1.2
Children Living With Both Parents

The percentage of children living with both parents has declined among both whites and blacks since 1960. In 1977, 47 percent of black children and 85 percent of white children were living with both parents.

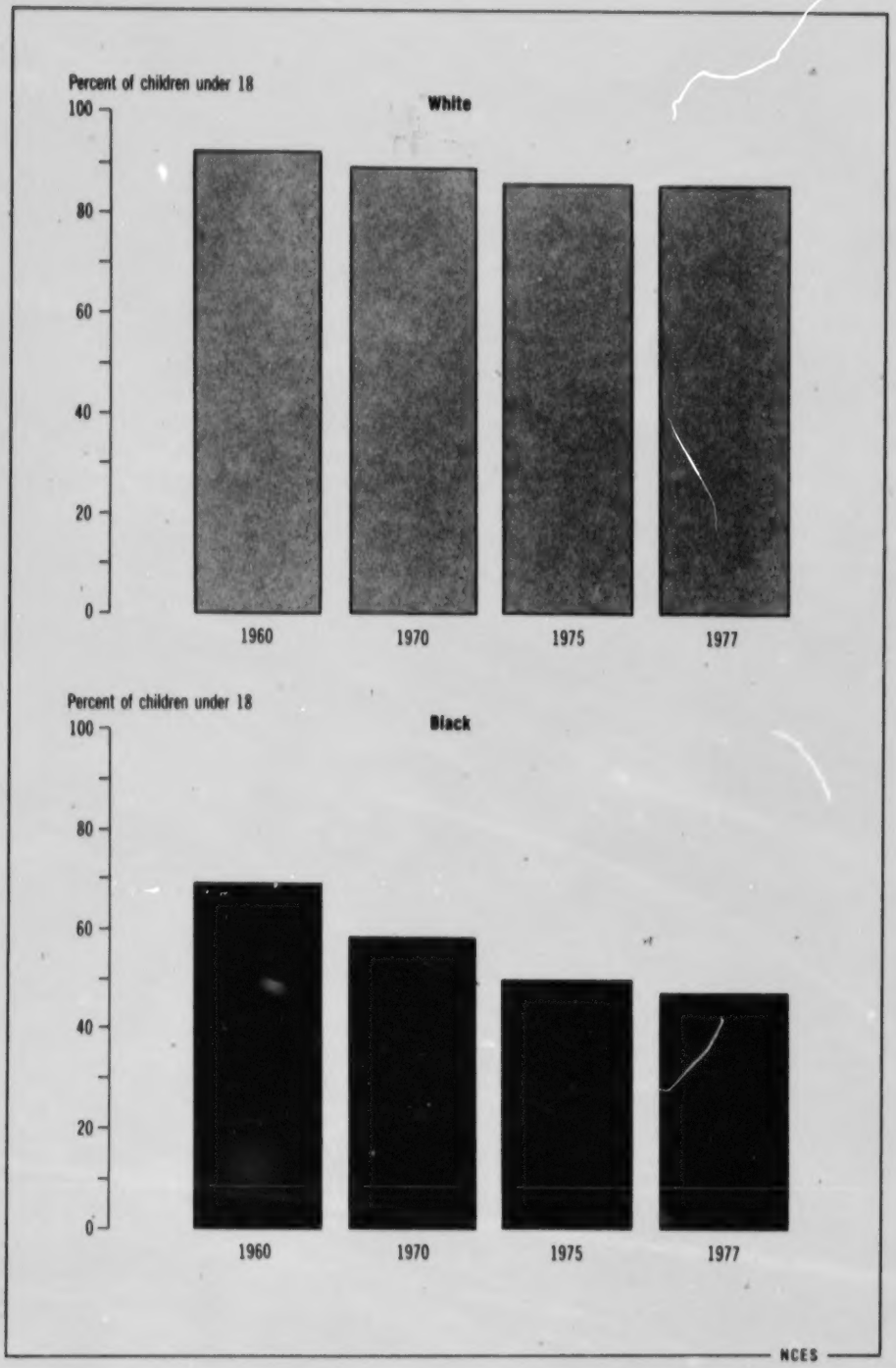

Table 1.3
Educational attainment of heads of families with children 6 to 17 years old, by type of family: 1970 to 1978

Family type and educational attainment of head	1970	1971	1972	1973	1974	1975	1976	1977	1978
	Percentage distribution								
All families	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
8 years or less	21.7	20.6	19.5	18.4	17.8	16.4	16.1	15.0	14.5
9 to 11 years	18.8	18.5	19.2	18.5	18.0	17.0	17.5	17.8	16.7
12 years	34.5	35.4	3 .7	36.5	36.4	37.4	36.9	36.5	37.3
13 to 15 years	10.7	11.2	11.2	11.5	11.9	13.0	13.3	13.5	13.8
16 or more years	14.3	14.4	14.4	15.1	15.9	16.2	16.2	17.1	17.8
Husband-wife families	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
8 years or less	21.2	19.9	19.0	18.0	16.8	15.4	15.5	14.7	13.9
9 to 11 years	17.3	17.1	17.6	16.6	16.2	15.2	15.4	15.6	14.5
12 years	34.7	35.4	35.8	36.5	36.5	37.5	36.9	36.3	37.3
13 to 15 years	11.1	11.7	11.7	12.0	12.5	13.5	13.8	13.9	13.9
16 or more years	15.8	15.9	16.0	16.9	18.0	18.3	18.4	19.5	20.4
Female-headed families	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
8 years or less	25.1	24.7	22.0	21.1	22.7	21.3	19.2	16.6	16.7
9 to 11 years	30.2	27.3	29.3	29.6	27.8	26.8	28.0	28.5	26.6
12 years	33.6	35.7	35.9	36.8	35.9	35.5	36.9	37.8	37.2
13 to 15 years	7.8	7.7	8.2	8.6	9.1	9.9	10.4	11.6	13.1
16 or more years	3.4	4.6	4.6	4.0	4.6	5.6	5.5	5.6	6.4

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Reports, *Household and Family Characteristics*, P–20, unpublished tabulations.

Chart 1.3
Educational Attainment of Family Heads With Children

Parental education is lower in single-parent families headed by mothers than in two-parent families headed by fathers. The attainment level has risen among both groups in recent years.

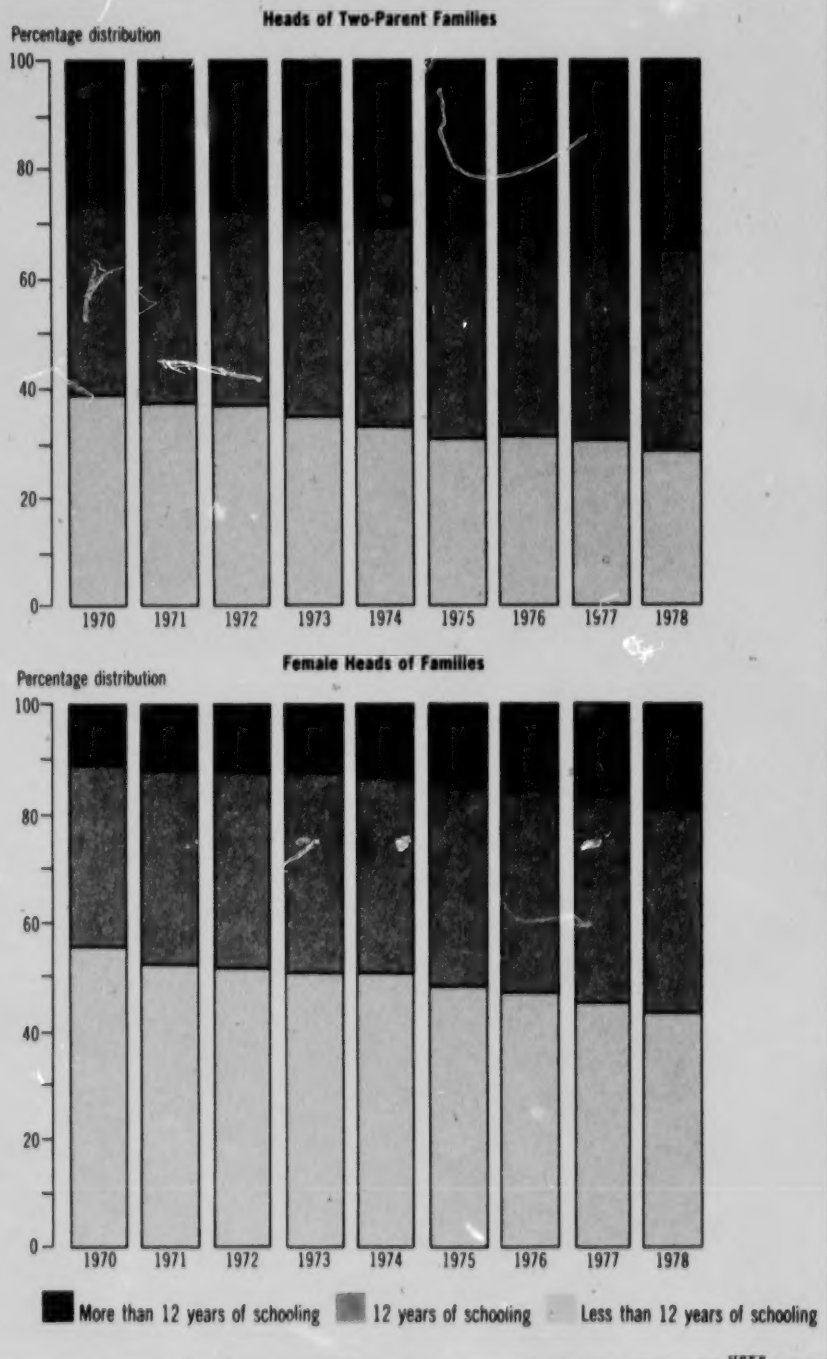

Table 1.4
Parents' opinion on the effects of external influences on children's education: 1978

Item	Responses of parents					
	Total	Good effect	No effect	Bad effect	Depends or both good and bad effect	No opinion
	Percentage distribution					
"What effect do you think television is having on the education children now receive? In general, is it having a good effect, a bad effect, or no effect at all?"	100	22	11	42	21	4
"What about most children's shows on television? Do you think they have a good effect, a bad effect, or no effect at all on children's education?"	100	56	11	11	13	9
"Does racial integration of the schools have a good effect, a bad effect, or no effect at all on the education most children receive?"	100	21	39	23	7	10
"What about busing? Has that had a good effect, a bad effect, or no effect at all on the education of the children involved?"	100	13	19	48	4	16
"Many children now have only one parent living at home with them. Do you think this has a good effect, a bad effect, or no effect at all on their education?"	100	3	16	63	13	5
"What about working mothers—does working have a good effect, a bad effect, or no effect at all on her children's education?"	100	8	26	46	17	3

SOURCE: Columbia Broadcasting System, Inc., "CBS News Poll", June, 1978.

Chart 1.4
Outside Influences on Children's Education: Parents' Opinion

Although many parents regard television in general as detrimental to children's education, most view children's programs on television as a positive influence.

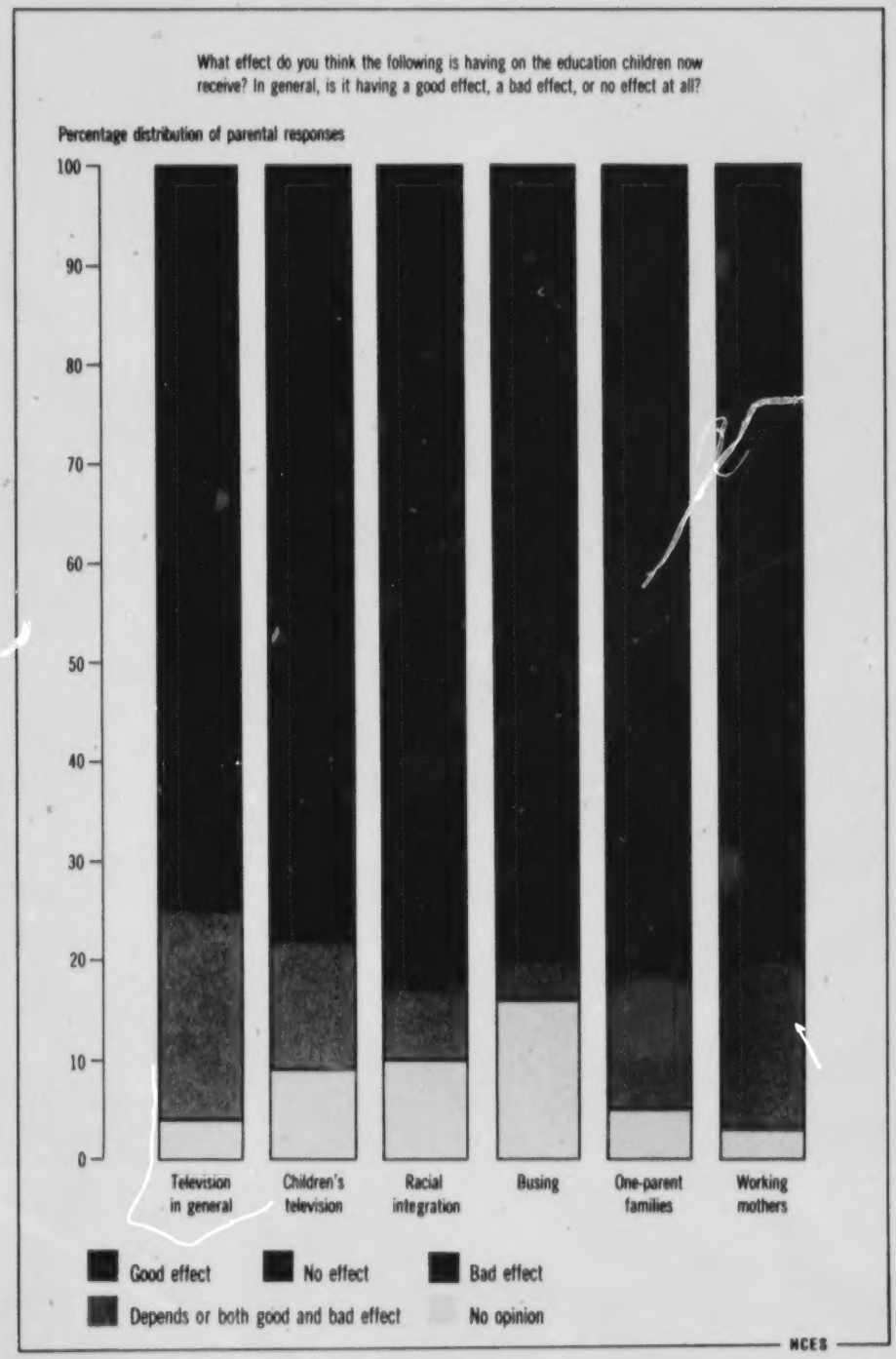

Table 1.5
Parental control over children's television viewing and study hours and involvement in children's education: 1978

Item	How often do you do the following: nearly all the time, occasionally, or not at all? Responses of parents				
	Total	All the time	Occasionally	Not at all	Not applicable/ no opinion
	Percentage distribution				
Limit children's television viewing time	100	28	45	25	2
Set rules about which programs children watch	100	35	38	27	0
Enforce study hours	100	47	37	15	1
Meet with teachers and counselors	100	40	53	6	1
Do volunteer work in the schools	100	15	34	51	0
Participate in PTA activities	100	19	44	36	1
Take children to the library	100	24	44	31	1

SOURCE: Columbia Broadcasting System, Inc., "CBS News Poll", June, 1978.

Chart 1.5
Parents' Control and Involvement in Children's Education

Most parents do enforce study hours, limit television viewing, and meet with their children's teachers and counselors, at least occasionally. About one-third said that they do not participate in the PTA or take their children to the library.

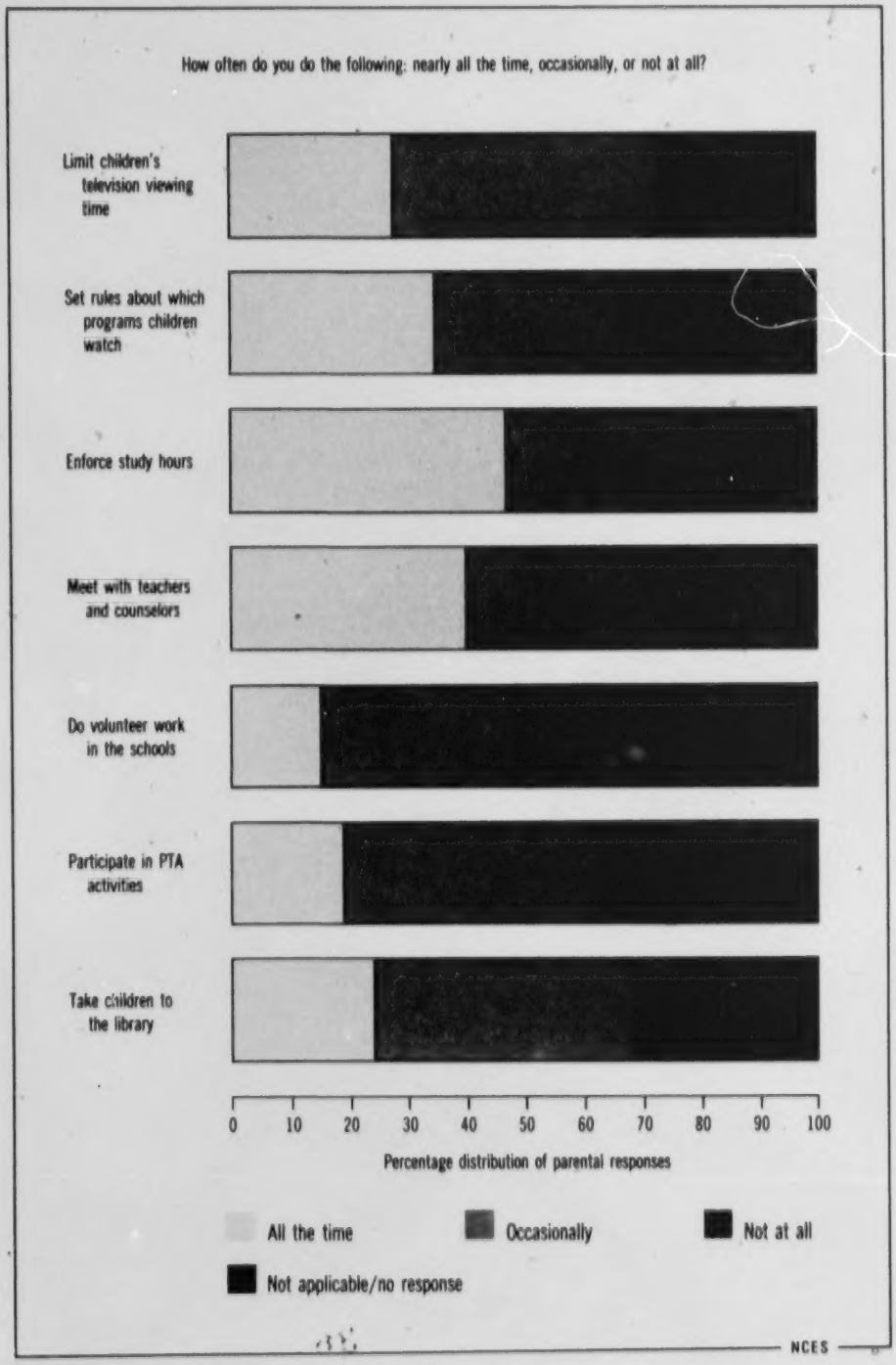

Table 1.6
Time parents have to devote to assisting their children with homework: 1978

Characteristic	Total	"As a parent, how much time do you usually have to devote to your youngster in the evening to assist him/her with his/her homework—enough time, not enough time, or none at all?"			
		Enough time	Not enough time	None at all	Don't know/ no answer
	Percentage distribution				
Total	100	64	17	13	6
Parental education					
Grade school	100	49	19	29	3
High school	100	66	17	14	3
College	100	66	18	6	10
Family type					
One-parent families	100	58	12	10	20
Two-parent families	100	66	18	13	3

SOURCE: Phi Delta Kappa, Inc., "The Tenth Annual Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan*, September, 1978.

Chart 1.6
Time Parents Have to Help With Homework

Most parents indicated that they devote enough time to helping with their children's homework. However, a sizeable minority of parents with only a grade school education indicated that they have little or no time to spend helping with homework.

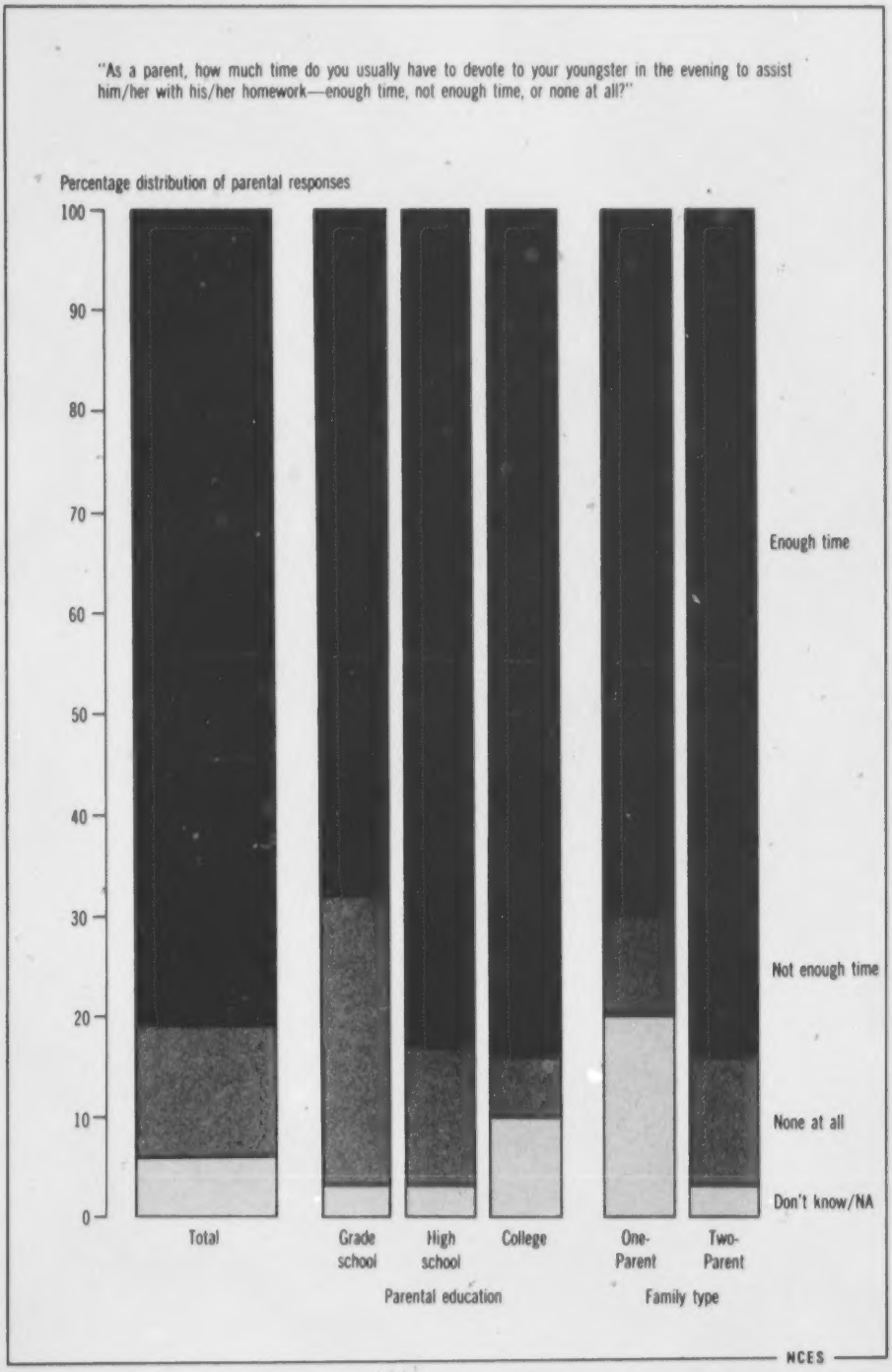

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Table 1.7
Average hours spent by 17-year-olds on homework weekly and television nightly: 1976

Time spent viewing television nightly	Time spent on homework weekly					
	Total	No homework assigned	No time spent	Less than 5 hours	5 to 10 hours	More than 10 hours
	Percentage distribution					
Total	100.0	6.5	6.8	51.6	29.3	5.8
Minimal (less than 1 hour)	48.6	3.1	3.4	24.2	14.7	3.2
Moderate (1 to 3 hours)	34.6	1.9	2.2	18.3	10.3	1.9
Heavy (3 to 5 hours)	11.9	1.0	.8	6.5	3.2	.4
Very heavy (5 hours or more)	4.9	.5	.4	2.6	1.1	.3

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Assessment of Educational Progress, "Some Preliminary Analyses of National Longitudinal Study Background Items Used in the National Assessment", 1978.

Chart 1.7
Weekly Homework and Nightly Television Viewing

Time devoted to homework is not clearly associated with time spent viewing television. A majority of 17-year-olds spend less than 5 hours a week on homework. The largest group of 17-year-olds reported viewing less than 1 hour of television nightly.

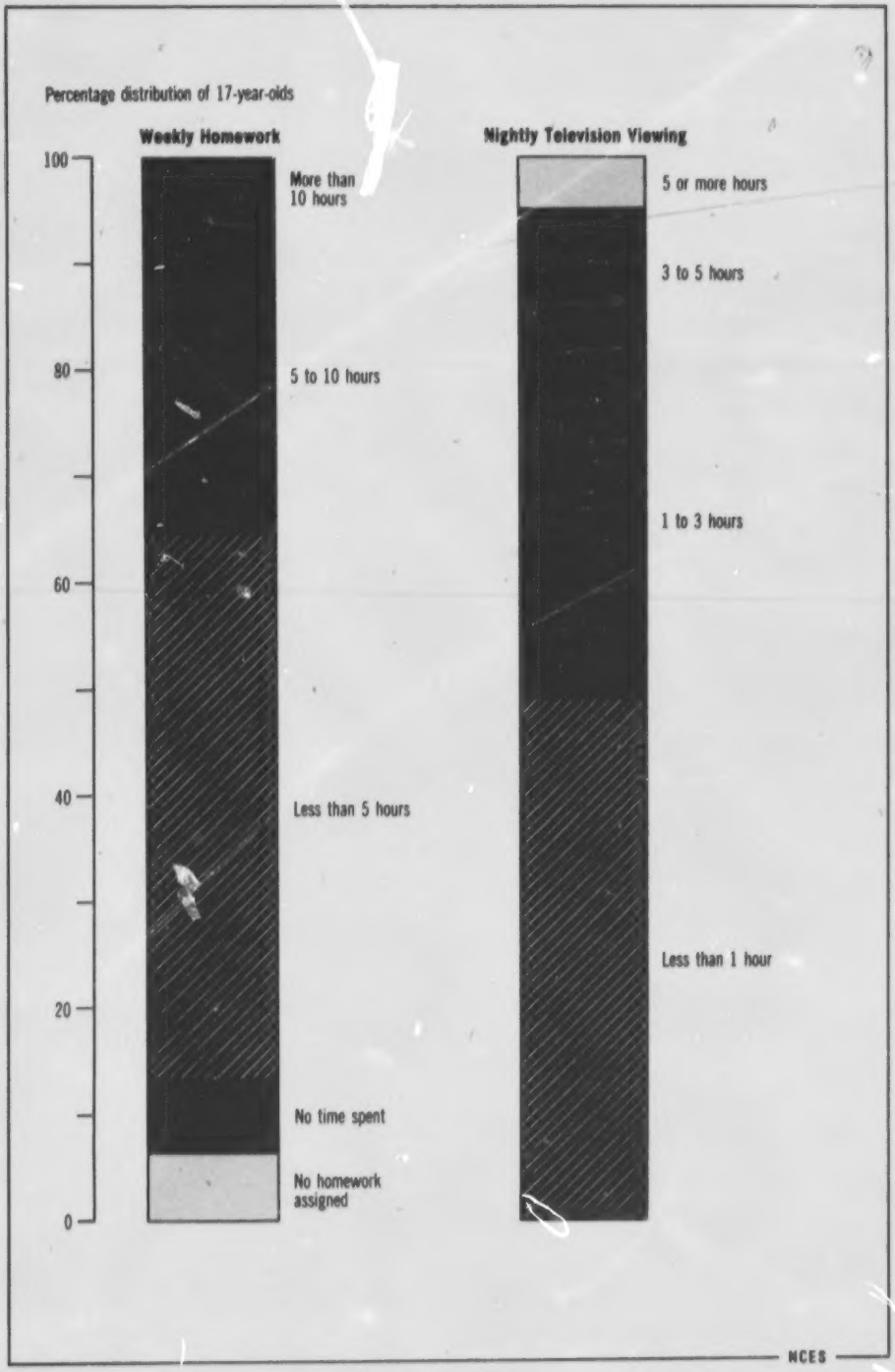

Table 1.8
Employment status of civilian noninstitutional population 16 to 24 years old, by school enrollment status, sex, racial/ethnic group, and educational attainment: October 1976 and October 1977

Characteristic	Total population (in thousands)		Civilian labor force: Percent of total population		Civilian labor force: Percent unemployed	
	1976	1977	1976	1977	1976	1977
Total	35,222	35,658	64.1	65.8	13.9	12.2
Enrolled in school	15,548	15,551	45.3	46.9	14.0	13.0
Male	8,065	8,110	47.1	48.3	14.9	12.4
Female	7,483	7,441	43.4	45.3	12.9	13.6
White	13,197	13,124	48.3	50.1	12.5	11.3
Black	2,047	2,069	26.7	27.5	30.3	33.0
Hispanic origin [1]	846	815	38.2	40.6	21.7	17.2
Elementary and high school student	8,092	8,145	41.1	43.3	19.0	17.8
College student	7,456	7,406	49.9	50.8	9.5	8.6
Full-time	6,251	6,134	42.2	43.0	11.0	9.7
Part-time	1,205	1,272	89.6	88.8	5.6	5.9
Not enrolled in school	19,674	20,107	79.0	80.4	13.9	11.9
Male	9,145	9,321	92.1	93.3	13.0	10.6
Female	10,529	10,786	67.7	69.3	15.0	13.5
White	16,939	17,338	80.7	81.6	12.3	9.9
Black	2,420	2,480	67.6	72.7	27.2	28.0
Hispanic origin [1]	1,213	1,309	69.0	69.9	15.8	12.6
High school dropout	4,981	5,031	64.8	66.4	24.6	20.4
High school graduate, no college	10,323	10,797	81.4	83.6	12.1	10.5
College graduate	1,480	1,419	95.0	94.5	7.1	8.0

[1] Categories are not discrete (e.g., a person may be classified in both white and Hispanic categories).

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*, Vol. 101, No. 6, June 1978.

Chart 1.8
Labor Force Participation and Unemployment of Young Adults

Only two-thirds of young adult high school dropouts are in the labor force and of those one-fifth are unemployed. Most young adult college students combine schooling with participation in the labor force; 43 percent of those enrolled full-time and 89 percent of those enrolled part-time are in the labor force.

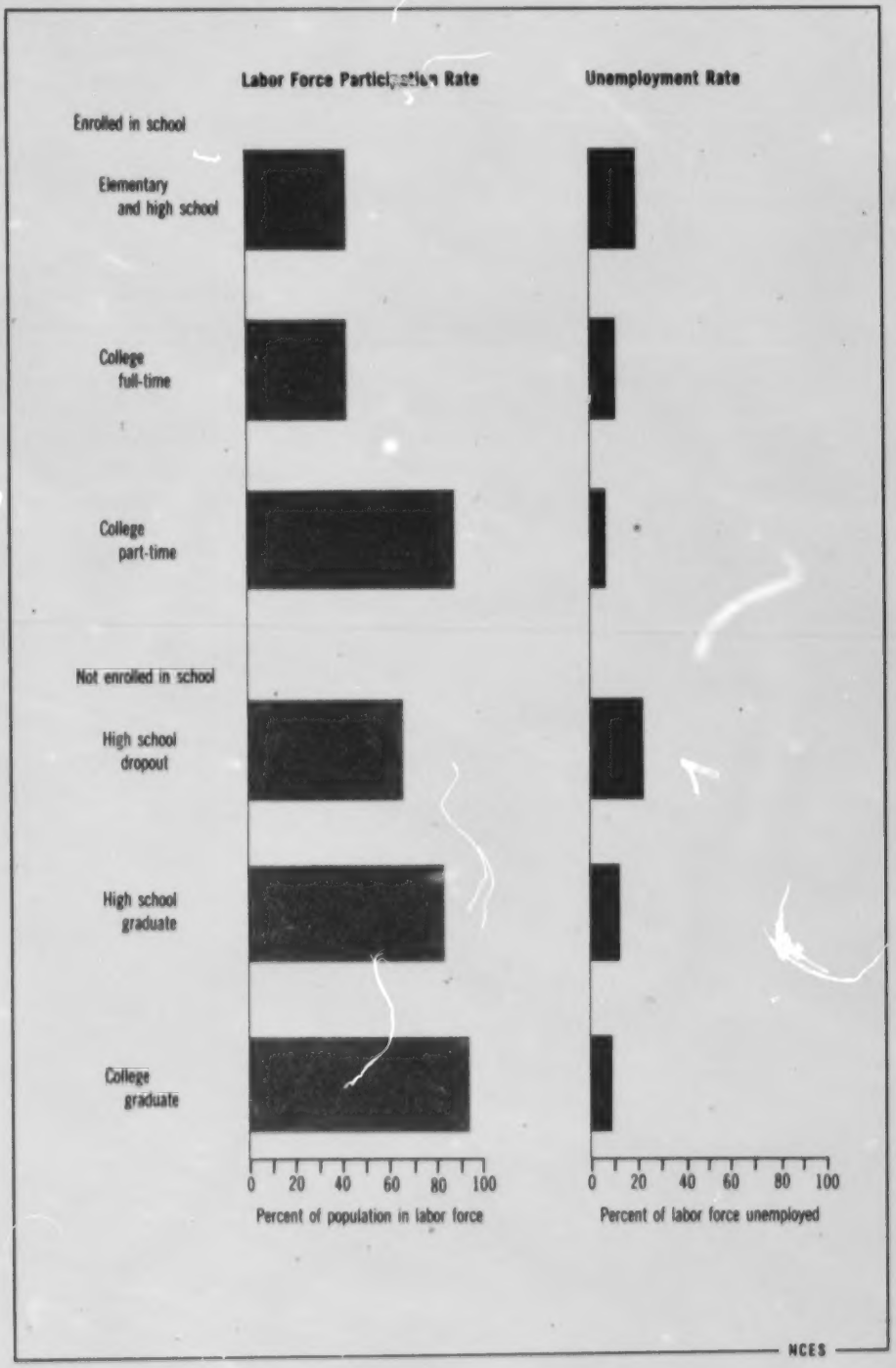

Table 1.9
Career development assessment of 17-year-olds, by enrollment status, race, and type of exercise: School year 1973–74

Type of exercise	Enrolled in school			Not enrolled in school		
	Total	White	Black	Total	White	Black
Knowledge of own interests and abilities						
Mean percent correct	66.15	67.11	60.04	54.13	54.94	55.16
Standard error	.55	.60	.78	1.69	1.69	4.94
Job-related values						
Mean percent correct	73.62	74.84	66.32	63.61	65.89	54.18
Standard error	.30	.33	1.34	1.24	1.22	2.78
Job knowledge						
Mean percent correct	74.05	75.88	62.10	61.13	64.56	48.00
Standard error	.26	.23	.61	.98	.84	1.78
Generally useful skills						
Mean percent correct	71.17	73.36	55.21	56.83	61.36	40.19
Standard error	.33	.28	.94	.99	.90	2.58

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Assessment of Educational Progress, *School and the 17-Year-Old*, 1978 and unpublished data.

Chart 1.9
Career Knowledge, Values, and Skills of 17-Year-Olds

Within each racial group, out-of-school 17-year-olds performed far below 17-year-old students on career development exercises. However, white high school dropouts performed no worse than black high school students on the exercises measuring job-related values, specific job knowledge, and generally useful skills.

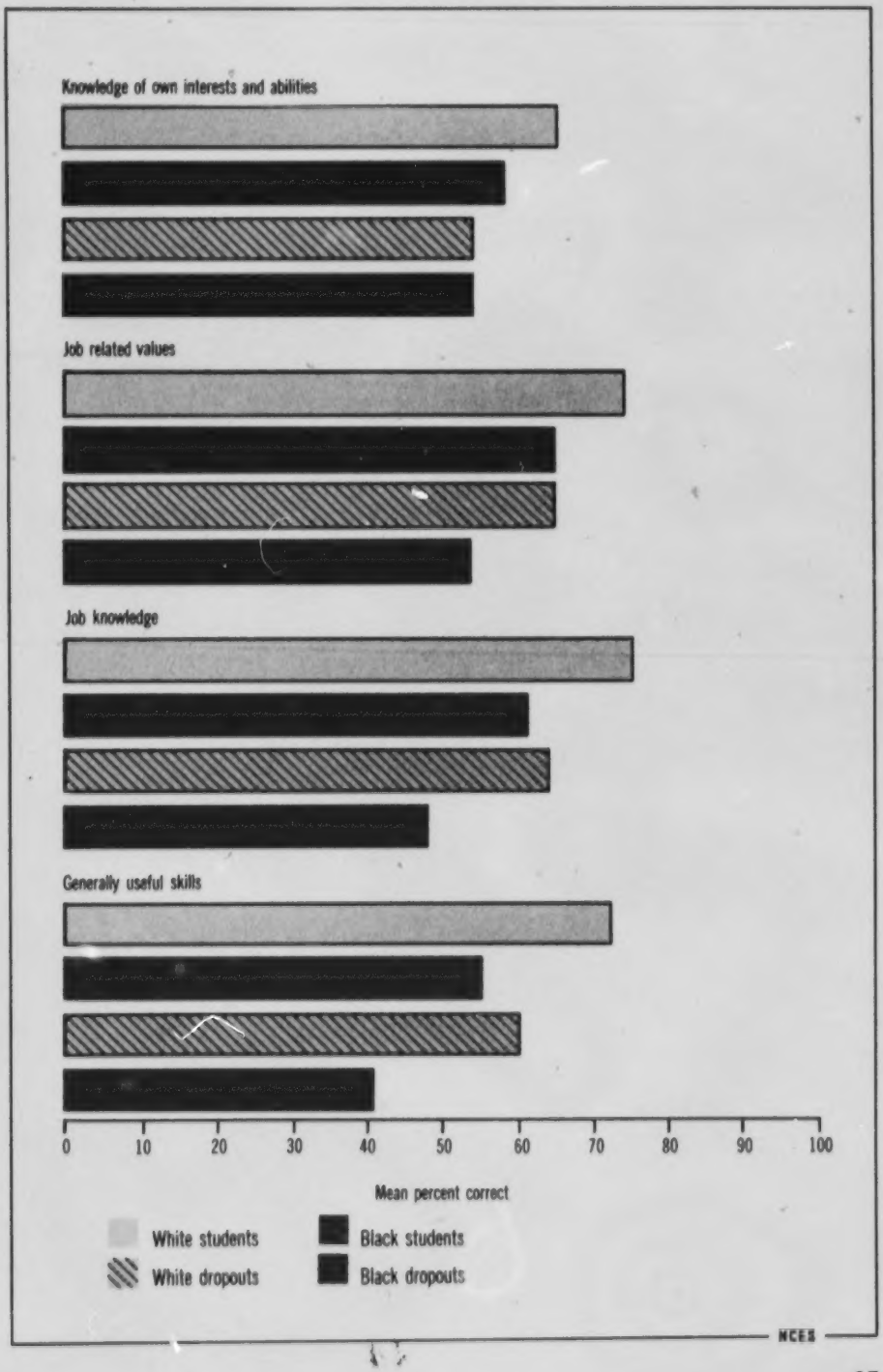

Table 1.10
Educational attainment of employed persons 16 years old and over, by major occupational group: March 1977

Occupational group	Total employed (in thousands)	Percentage distribution by years of school completed						
		Total	8 years or less	9 to 11 years	12 years	13 to 15 years	16 years	More than 16 years
Total	88,221	100.0	9.9	16.0	39.7	16.7	10.4	7.3
Professional, technical, and kindred workers	13,642	100.0	.8	2.3	14.2	17.7	31.4	33.6
Managers and administrators, except farm	9,562	100.0	4.5	8.1	33.6	22.4	19.8	11.6
Sales workers	5,534	100.0	3.9	13.5	40.2	23.4	15.3	3.8
Clerical and kindred workers	15,830	100.0	2.3	9.8	56.3	23.2	6.8	1.6
Craft and kindred workers	11,273	100.0	13.0	18.8	49.6	14.8	3.1	.8
Operatives	13,563	100.0	19.8	26.0	43.9	8.4	1.5	.4
Laborers, except farm	3,938	100.0	19.3	29.9	37.0	11.0	2.6	.2
Service workers	12,440	100.0	15.5	27.7	39.3	13.9	2.8	.9
Farm workers	2,439	100.0	31.5	18.6	34.8	8.8	4.8	1.5

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Special Labor Force Report 209, *Educational Attainment of Workers*, 1978.

Chart 1.10
College Graduates in Major Occupations

Almost two-thirds of professional and technical workers and one-third of managers and administrators have completed at least 4 years of college.

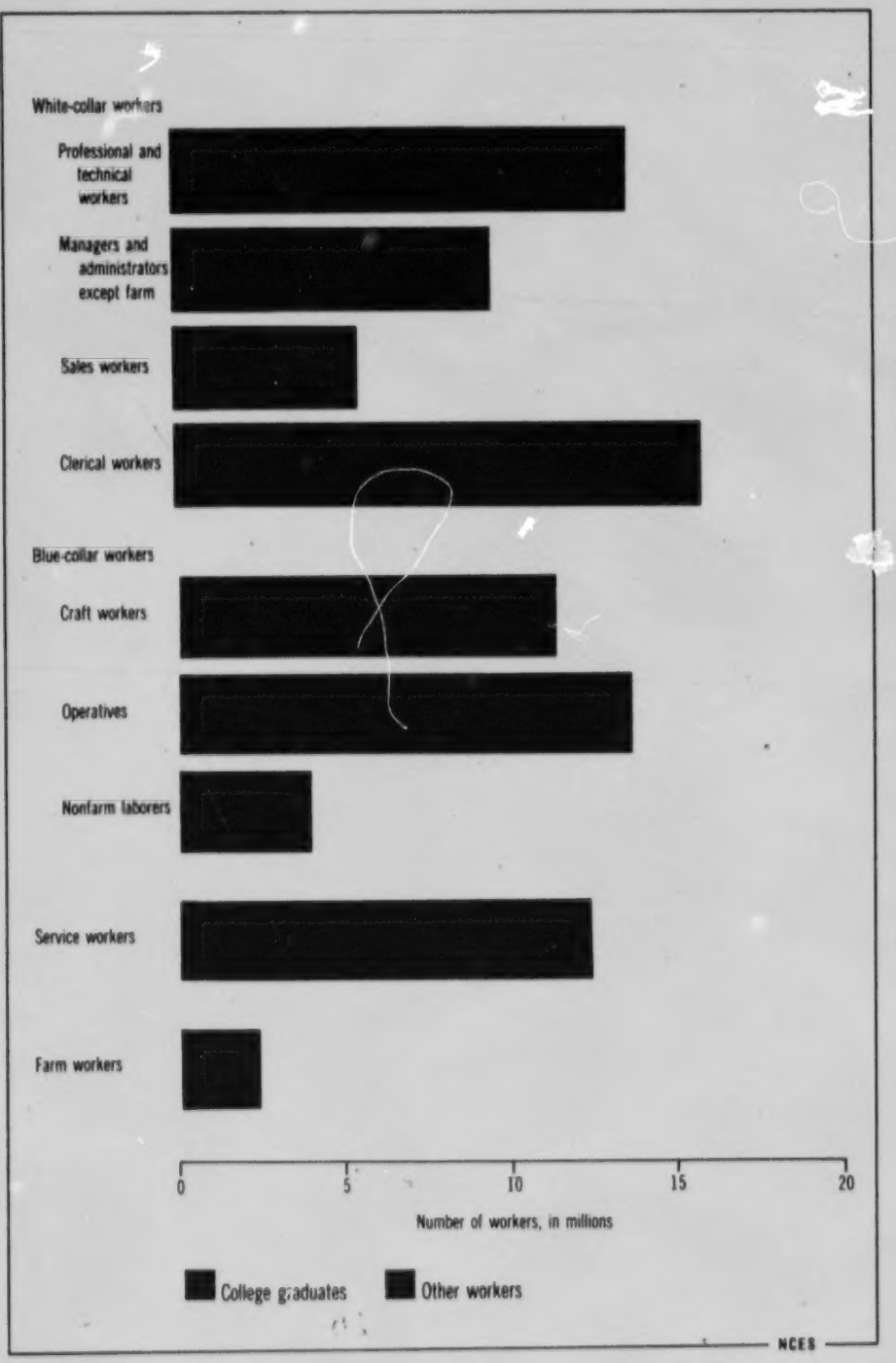

Table 1.11
Labor force entrance of college graduates, by major occupational group: March 1962 to March 1969 and March 1969 to March 1976

Occupational group	1962 to 1969		1969 to 1976	
	Number (in thousands)	Percentage distribution	Number (in thousands)	Percentage distribution
Total	4,017	100.0	8,096	100.0
Professional and technical	2,915	72.6	3,751	46.1
Managers and administrators	686	17.1	1,498	18.4
Sales	117	2.9	680	8.4
Clerical	121	3.0	858	10.5
Craft	99	2.5	256	3.1
Operatives	21	.5	166	2.0
Nonfarm laborers	4	.1	80	1.0
Service	21	.5	373	4.6
Farmworkers	12	.2	94	1.2
Unemployed	4	.1	250	4.7

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Educational Attainment of Workers*, March 1962, 1969, and 1976, Special Labor Force Reports Nos. 30, 125, and 193.

Chart 1.11
Occupations Entered by College Graduates

While the number of college graduates joining the labor force between 1969 and 1976 was twice the number entering during the previous 7-year period, the number entering professional occupations increased by less than one-third.

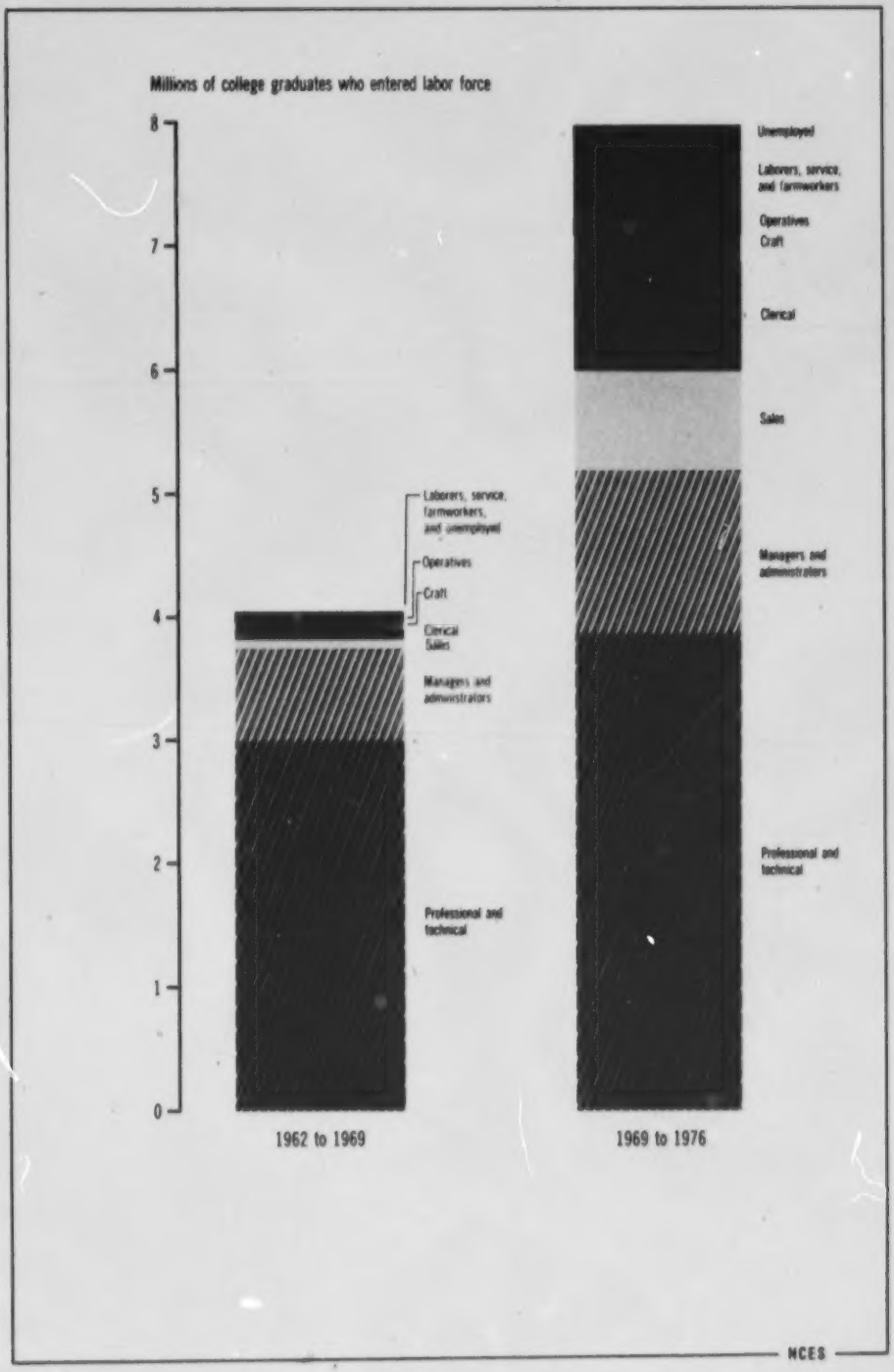

Table 1.12
Job satisfaction of young adult full-time workers 4½ years after high school, by educational attainment: 1976

Job aspect	Percent indicating very satisfied with job aspect		
	No college	Some college, no degree	Bachelor's degree or higher
Job as whole	24.6	24.5	31.2
Working conditions	21.6	25.5	31.9
Pay and fringe benefits	22.0	20.9	23.5
Supervisor	26.4	29.8	34.2
Security and permanence	30.0	32.8	29.0
Importance and challenge	20.5	24.2	34.9
Pride and respect	29.7	31.8	43.4
Opportunity with current employer	17.8	19.6	21.1
Opportunity in current line of work	19.6	22.3	26.2
Opportunity to use training and education	17.8	21.8	32.5
Opportunity to develop skills	22.9	25.9	34.3

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, unpublished tabulations.

Chart 1.12
Job Satisfaction of Young Adult Workers

More young college graduates expressed high satisfaction with their jobs than their counterparts with less education.

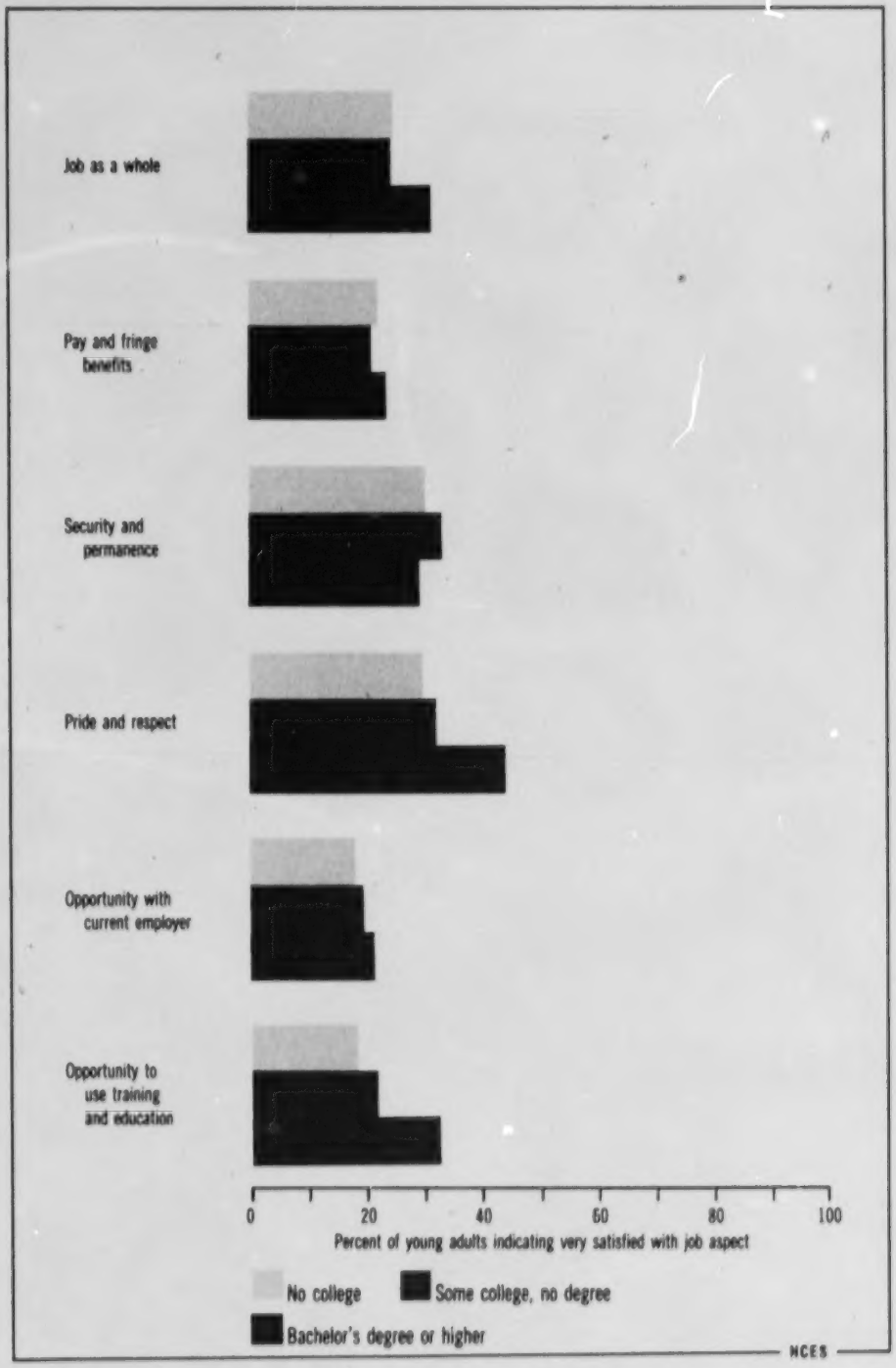

Table 1.13
Voter participation rate, by educational attainment: 1964 to 1976

Years of school completed	Percent of population who reported voting						
	1964	1966	1968	1970	1972	1974	1976
8 years or less.....	59.0	44.6	53.4	43.4	47.4	34.4	44.1
9 to 11 years.....	65.4	49.9	64.2	47.1	52.0	35.9	47.2
12 years.....	76.1	60.1	75.5	58.4	65.4	44.7	59.4
13 to 15 years.....	82.1	64.8	81.2	61.3	74.9	49.6	68.1
16 or more years...	87.5	70.2	85.0	70.2	83.6	61.3	79.8

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Voting and Registration in the Election of November 1976*, P–20, and unpublished data.

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Chart 1.13
Voter Participation by Educational Attainment

Although higher educational attainment is associated with a greater likelihood of voting, the proportion of the electorate voting in presidental and congressional elections has declined at all educational levels since 1964.

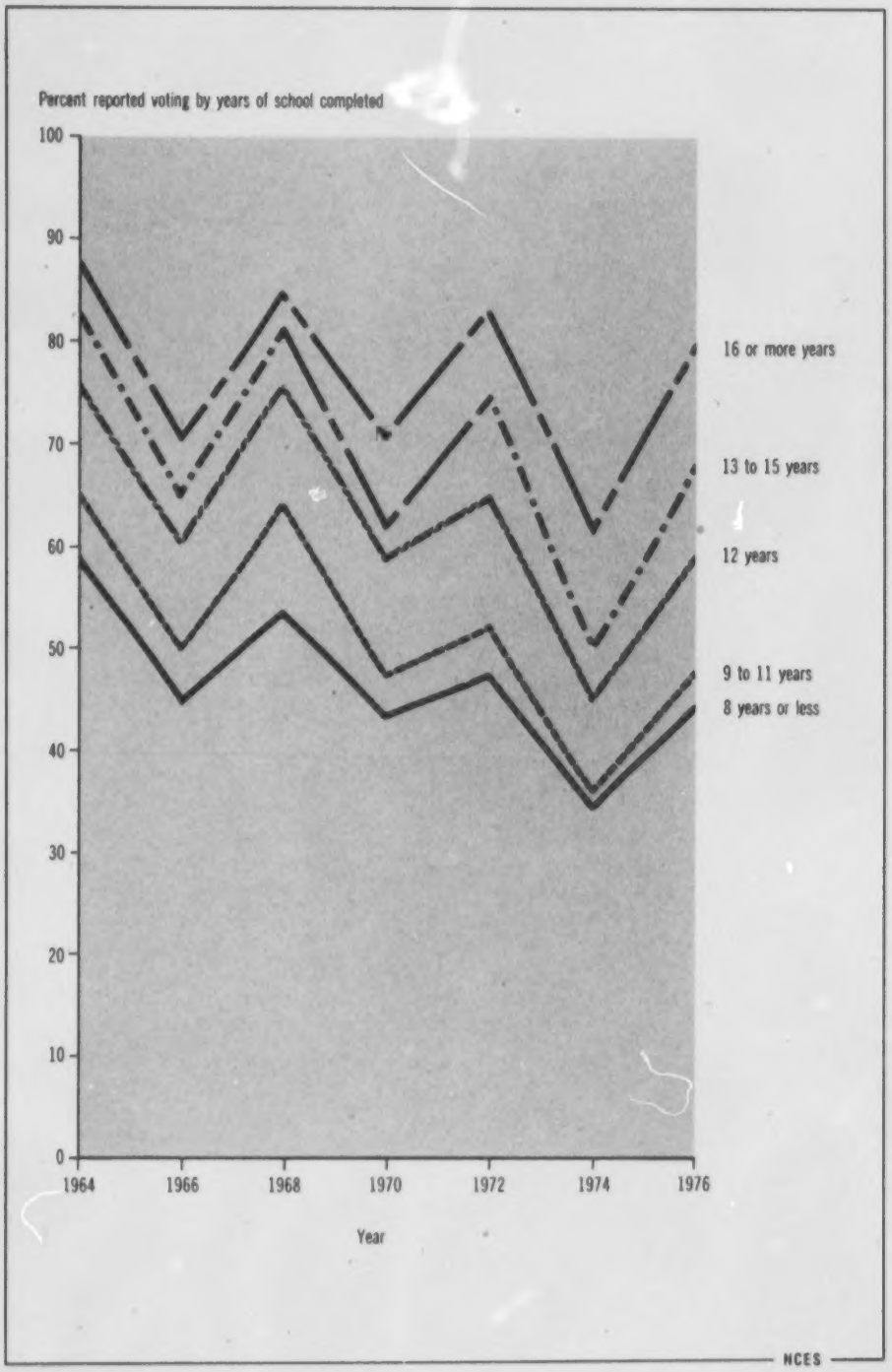


Table 1.14
Political and social participation of young adult high school graduates, by educational attainment: 1976

Activity	No college	Some college, no degree	Bachelor's degree or higher
		Percent	
Registered to vote	59.5	76.7	87.4
Voted in government election	54.4	74.2	82.2
Participated in or belonged to:			
Political club or organization	5.1	9.9	16.0
Youth organization	6.1	10.9	13.6
Work-related organization or student government association	17.7	23.8	42.4
Church or church-related activity (excluding worship services)	30.6	33.1	38.4
Community, service, or organized volunteer work	16.3	25.9	39.6
Social, athletic, arts, or discussion group	38.8	51.2	60.0

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, unpublished data.

Chart 1.14
Political and Social Participation of Young Adult High School Graduates by Educational Attainment

Young adult college graduates were far more likely to register and vote in governmental elections and belong to a political organization than their counterparts with less education.

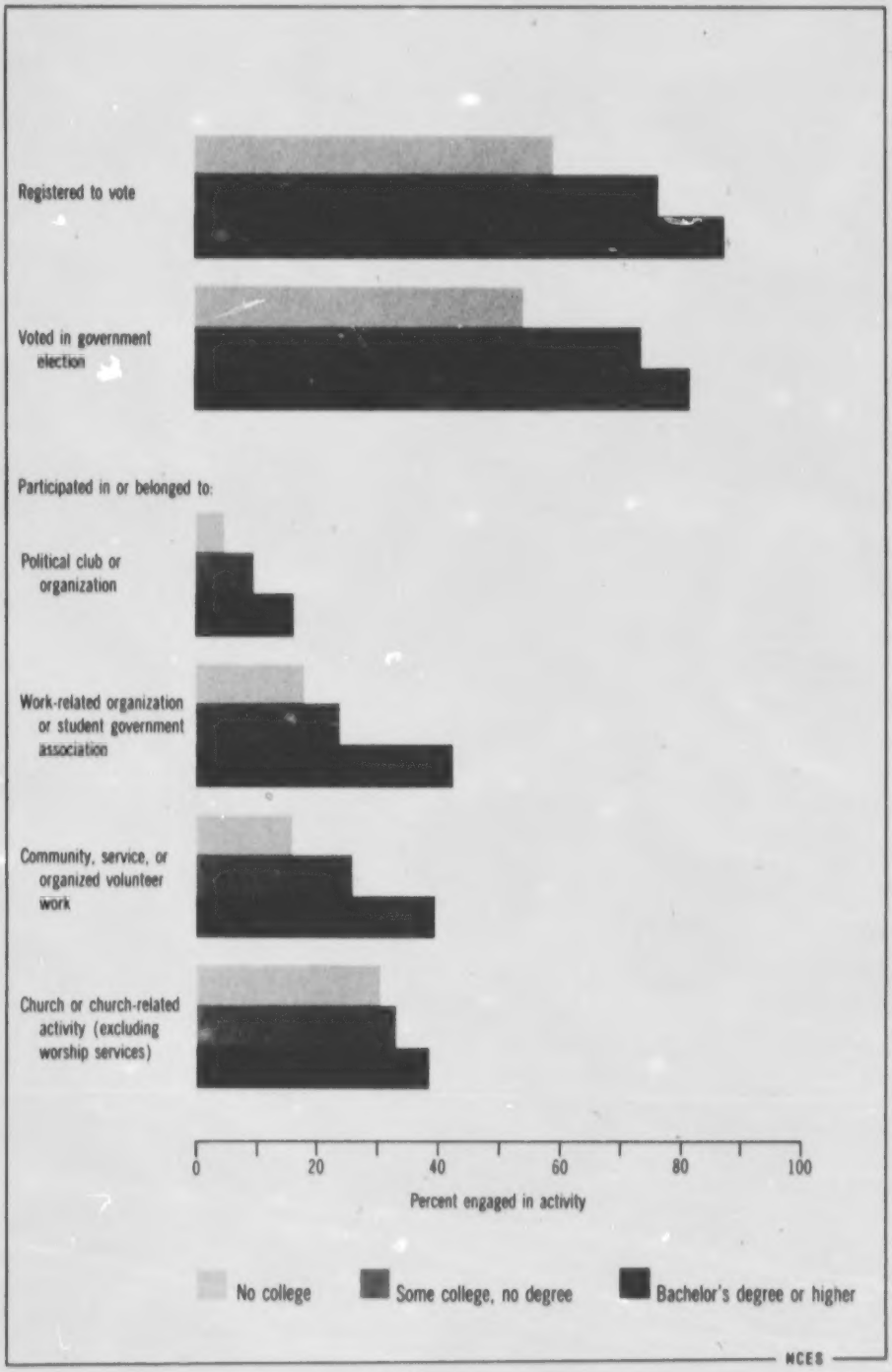


Table 1.15
Public confidence in people running institutions in the United States: 1973 to 1978

Year and institution	Percentage distribution of responses					
	Total	A great deal	Only some	Hardly any	Don't know	No answer
1973						
Education	100.0	36.8	53.1	8.2	1.4	0.6
Executive branch, Federal government	100.0	29.2	50.2	18.3	1.9	.4
Congress	100.0	23.4	58.7	14.8	2.6	.5
Major companies	100.0	29.2	53.1	10.8	6.6	.3
Medicine	100.0	53.8	39.0	5.7	.9	.5
Press	100.0	23.0	60.6	14.6	1.5	.3
1974						
Education	100.0	49.0	41.2	8.2	1.3	.3
Executive branch, Federal government	100.0	13.6	42.5	41.6	2.2	.1
Congress	100.0	17.0	58.9	20.8	3.0	.2
Major companies	100.0	31.3	50.5	14.5	3.6	.1
Medicine	100.0	60.3	33.6	4.4	1.5	.1
Press	100.0	25.8	55.3	17.4	1.2	.2
1975						
Education	100.0	30.9	54.5	12.8	1.7	.1
Executive branch, Federal government	100.0	13.3	54.6	29.5	2.6	.1
Congress	100.0	13.3	58.5	25.1	2.9	.2
Major companies	100.0	19.2	53.8	21.1	5.5	.5
Medicine	100.0	50.4	40.1	7.9	1.5	.2
Press	100.0	23.8	55.2	17.8	2.8	.4
1976						
Education	100.0	37.2	44.8	15.3	2.0	.7
Executive branch, Federal government	100.0	13.4	58.3	25.0	3.0	.3
Congress	100.0	13.7	58.0	25.4	2.6	.3
Major companies	100.0	21.9	51.0	21.6	5.0	.5
Medicine	100.0	53.8	35.2	9.2	1.3	.5
Press	100.0	28.3	51.8	17.6	1.8	.6
1977						
Education	100.0	40.5	49.5	8.8	.9	.3
Executive branch, Federal government	100.0	27.8	54.2	14.4	3.1	.3
Congress	100.0	19.0	60.6	17.1	2.9	.5
Major companies	100.0	27.1	56.3	12.3	4.0	.3
Medicine	100.0	51.4	41.1	6.1	1.1	.3
Press	100.0	25.0	57.1	15.4	2.2	.3
1978						
Education	100.0	28.4	54.9	15.1	1.4	.3
Executive branch, Federal government	100.0	12.5	59.3	24.8	3.2	.3
Congress	100.0	12.9	62.9	20.8	3.1	.3
Major companies	100.0	21.6	57.8	16.0	4.4	.2
Medicine	100.0	45.9	43.9	9.1	.8	.3
Press	100.0	20.0	58.3	19.6	1.8	.3

NOTE: Details may not add to totals because of rounding.

SOURCE: National Opinion Research Center, University of Chicago, *General Social Surveys, 1972–78, Cumulative Codebook*, July, 1978.

Chart 1.15
Confidence in the People Running Institutions: Public Opinion

As public confidence in most institutional leaders declined in 1978, public confidence in the people running educational institutions fell to its lowest point in 6 years.

"I am going to name some institutions in this country. As far as the people running these institutions are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?"

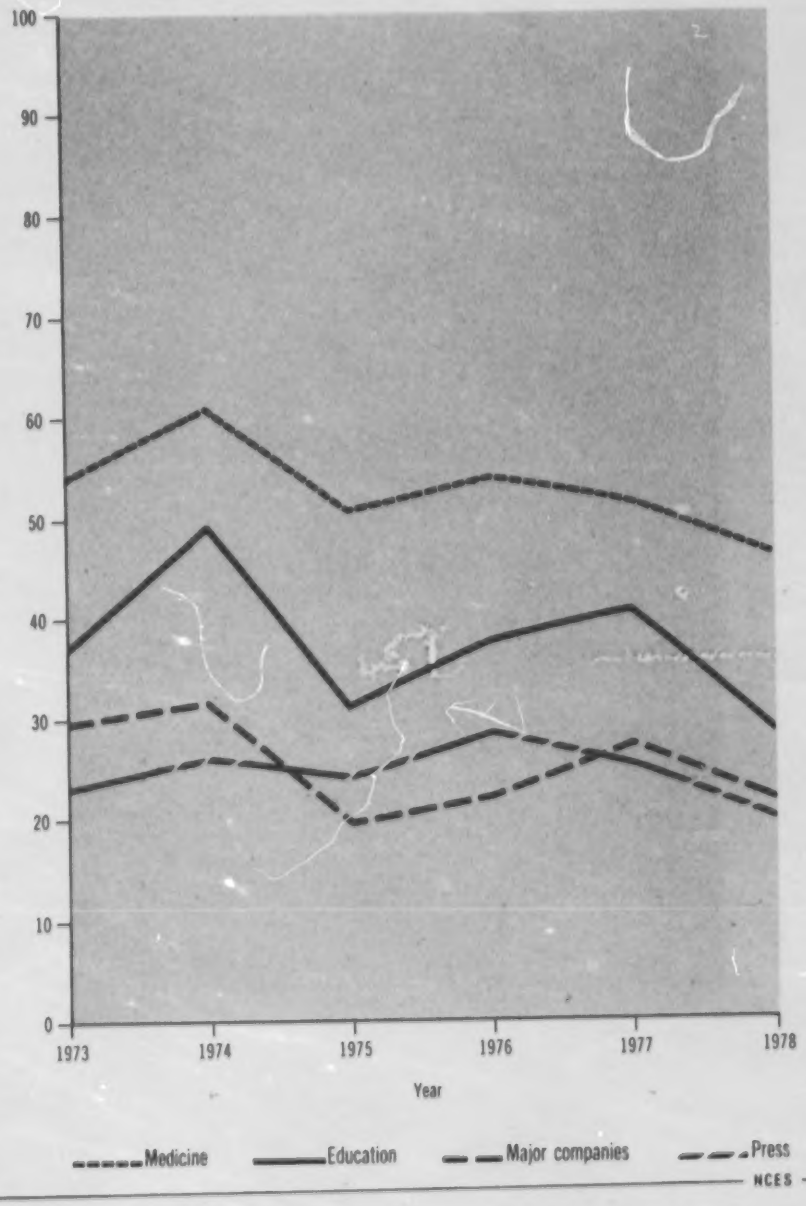


Table 1.16
Change in political knowledge and attitudes from citizenship and social studies assessments, by age and type of community: School year 1969–70 to 1975–76

Characteristic	Citizenship				
	1969–70		1975–76		Change from 1970
	Mean percent correct	Standard error	Mean percent correct	Standard error	
9-year-olds	59.7	0.7	51.0	0.6	*–8.7
Type of community					
Low metro	44.1	1.3	42.0	1.5	–2.2
Extreme rural	53.5	2.1	48.2	1.6	–5.3
High metro	65.9	1.8	58.6	1.2	*–7.3
13-year-olds	64.5	.4	62.0	.6	*–2.5
Type of community					
Low metro	54.2	1.1	51.1	3.4	–3.1
Extreme rural	58.7	1.1	61.2	1.6	2.4
High metro	70.6	1.0	71.4	.8	.8
17-year-olds	71.1	.4	64.4	.5	*–6.7
Type of community					
Low metro	65.0	1.2	55.2	1.7	*–9.8
Extreme rural	63.6	1.6	65.0	1.4	1.4
High metro	76.0	.8	68.4	.6	*–7.6

Characteristic	Social studies				
	1971–72		1975–76		Change from 1971–72
	Mean percent correct	Standard error	Mean percent correct	Standard error	
9-year-olds	67.6	.4	66.2	.5	*–1.4
Type of community					
Low metro	62.4	1.1	61.0	1.3	–1.5
Extreme rural	66.8	1.1	64.3	.9	–2.5
High metro	71.1	1.1	70.2	.8	–1.0
13-year-olds	56.2	.4	54.2	.6	*–2.0
Type of community					
Low metro	49.2	1.0	46.9	3.2	–2.3
Extreme rural	52.4	.8	52.3	1.5	.0
High metro	64.2	.6	63.2	1.3	–1.0
17-year-olds	71.3	.4	67.6	.5	*–3.6
Type of community					
Low metro	63.3	1.1	59.6	1.6	–3.8
Extreme rural	67.9	1.2	66.3	1.4	–1.6
High metro	78.7	.9	73.2	.9	*–5.5

* Statistically significant at the 0.05 level.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Assessment of Educational Progress, *Changes in Political Knowledge and Attitudes, 1969–76*, 1978, and *Changes in Social Studies Performance, 1972–76: Selected Results from the Second Assessment of Social Studies*, 1978.

Chart 1.16
Political Knowledge and Attitudes on Citizenship and Social Studies Assessments

Except among 13- and 17-year-olds living in extreme rural areas, scores on political knowledge and attitudes fell between a first and a second assessment. Students from low income communities in metropolitan areas scored aopreciably below the Nation in both periods.

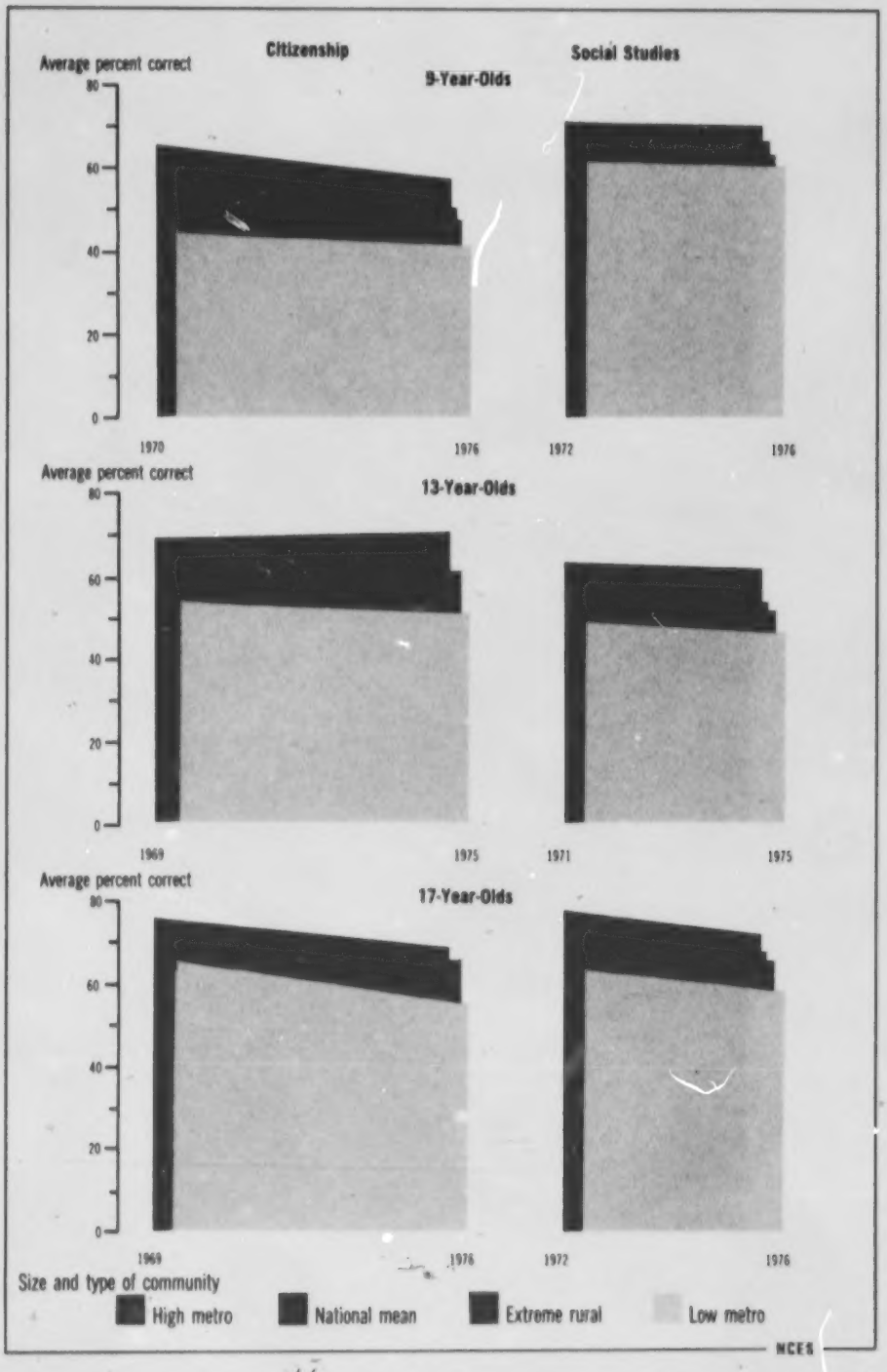


Table 1.17
Public opinion on high school course credit for community service: 1978

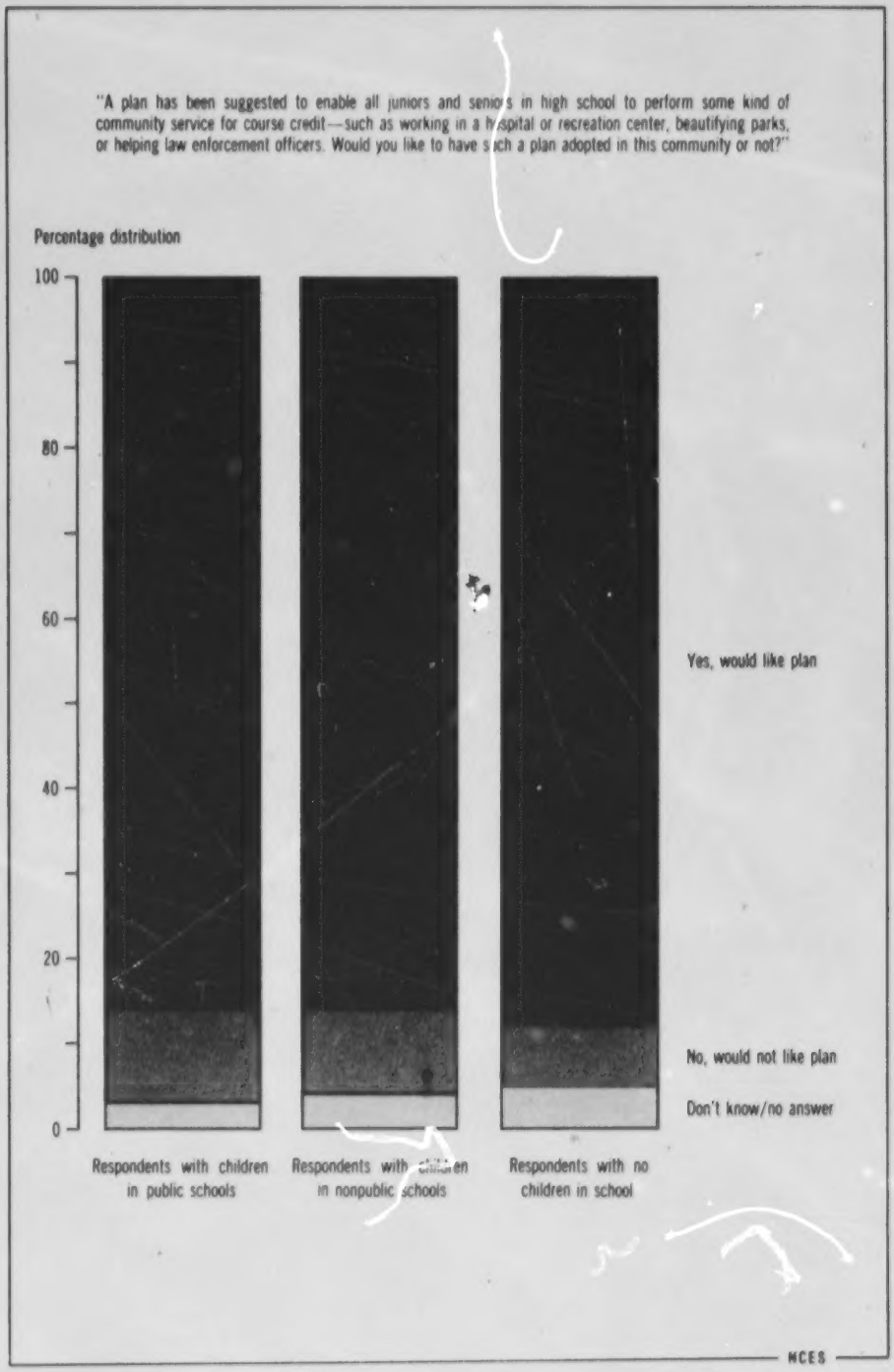
"A plan has been suggested to enable all juniors and seniors in high school to perform some kind of community service for course credit—such as working in a hospital or recreation center, beautifying parks, or helping law enforcement officers. Would you like to have such a plan adopted in this community or not?"

Responses	Total	Public school parents	Nonpublic school parents	No children in school
	Percentage distribution			
Total.....	100	100	100	100
Yes, would like plan.....	87	86	86	88
No, would not like plan...	8	11	10	7
Don't know/no answer...	5	3	4	5

SOURCE: Phi Delta Kappa, Inc. "The Tenth Annual Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan*, September, 1978.

Chart 1.17
High School Credit for Community Service: Public Opinion

An overwhelming majority of the public favors allowing high school juniors and seniors to earn course credit for community service work.


"A plan has been suggested to enable all juniors and seniors in high school to perform some kind of community service for course credit—such as working in a hospital or recreation center, beautifying parks, or helping law enforcement officers. Would you like to have such a plan adopted in this community or not?"
Percentage distribution
100
80
60
40
20
0
Yes, would like plan
No, would not like plan
Don't know/no answer
Respondents with children in public schools
Respondents with children in nonpublic schools
Respondents with no children in school
NCES

Chapter 2
Elementary and Secondary Education

American society has long recognized the need for a population that has certain basic skills and knowledge in common. The elementary and secondary education system in this country is the vehicle through which this is achieved. Thus, the condition of elementary and secondary education is the subject of widespread concern. Families, communities, employers, and government at all levels have a stake in elementary and secondary education.

The relationship among elementary and secondary education and these other societal institutions are explored in this chapter. A discussion of trends in enrollment at 3 levels—preprimary, elementary, and secondary—focuses on the societal changes with which these trends are associated. A second section addresses the issues surrounding the ongoing minimum competency testing debate by examining trends in children's progression through school. The chapter concludes with a description of the school environment and the status of teachers. Descriptions of public elementary and secondary school finances and of outcomes of education are offered in later chapters.

School Enrollment

The steady decline in the Nation's birth rate in the past 15 years is mirrored by the 24 percent decrease from 1967 to 1977 in the total number of preprimary-age children (entry 2.1). It was not until 1976, however, that this decline began to affect the absolute number of children enrolled in preprimary programs. Even then the effect was slight, since the proportion of children enrolled continued to increase. In 1977, almost half of all children 3 to 5 years old were enrolled in preprimary programs.

The social changes occurring during this period help explain the preprimary enrollment phenomenon. Among these, programs such as Head Start increased the participation of children from lower income families. Also, as chapter 1 notes, more women with children entered the labor force. This phenomenon, coupled with a belief in the importance of early childhood education, led more of these working mothers to seek educational programs for their young children rather than day care that did not include learning experiences. Changes in programs offered by elementary schools also led to increases in preprimary enrollment. Most elementary schools now enroll children in kindergarten, at age 5. An examination of preprimary enrollment by age shows that 82 percent of all 5-year-olds were enrolled in school in 1977 as compared with 22 and 42 percent of all 3- and 4-year-olds respectively.

Family income is one of the factors influencing preprimary enrollment at each of these ages. Despite the Head Start program, it is generally true that the higher the family income, the greater the likelihood that a child will be enrolled. Here, the increase in the number of working mothers comes into play, since households where both parents work register higher average incomes.

The quality of preprimary educational programs and their impact on primary school programs—and on the children themselves—are areas of growing concern among educators. These need greater study in the future, since increasing numbers of children entering first grade have experienced prior formal schooling. Some educators are calling for further expansion of public school resources into the area of preprimary education as a way to meet the growing demand for these services and as a method of overcoming financial and staffing difficulties caused by declining enrollment in the schools.

The declining birth rate is also affecting enrollments in elementary and secondary schools. After a peak in 1970, enrollments steadily decreased and were almost 7 percent lower in 1978 than in the peak year (entry 2.2). The primary grades, kindergarten through eighth grade, were the first to experience the enrollment decline, but it did not begin at the secondary level until 1977. These decreases are expected to continue at least through 1983, when enrollments are projected to be 15 percent lower in the primary grades than in the peak year. At the secondary level the enrollment decline is expected to continue through the mid 1980's.

For two reasons, care must be taken in any discussion of the effect of declining enrollments on elementary and secondary education planning. First, changes in the school-age population do not occur evenly across the Nation, either among or within States. Some States are experiencing increases in enrollment even while overall enrollments are declining. Central cities and rural areas are affected by larger decreases than are other areas. Second, because of the large number of women currently reaching child-bearing age, the population of school-age children is expected to increase again in the next decade, so that policy planning based on declining enrollments must necessarily be of an interim nature.

Taking these factors into account, education planners have set forth three alternative responses to problems caused by declining enrollments. The first is to contract. Consolidation of schools and school districts, fewer teachers and classrooms, and cutbacks in services are aspects of this alternative. The second alternative, a direct contrast of the first, is to expand services to the current school population, including greater individualized instruction, lower pupil-teacher ratios, and increased counseling services. The third alternative is to expand services to new clientele. As mentioned earlier in this chapter, this could mean using elementary school facilities for younger children. At the secondary level, the expanded clientele could include adults who need educational services. The need and the possibilities for expanding secondary school services to adults are discussed in a later chapter.

Enrollment in private elementary and secondary schools has also decreased with the decline in the number of school-age children, but the proportion of students enrolled in private schools has changed only slightly in the past decade (entry 2.3). Private school attendance varies greatly by race and type of area. It is highest, for both blacks and whites, in metropolitan central cities. Public schools in these areas, experiencing the greatest impact from declining enrollment, are further undermined by the large proportion of students attending private schools. The proportion of white students enrolled in private schools decreased slightly at both elementary and secondary levels between 1967 and 1977, but for blacks it has increased at the elementary level and remained stable at the secondary level.

Public school integration efforts have been met with varying degrees of success in different parts of the country. In the Nation, the proportion of black students attending predominantly minority or racially isolated schools was slightly over two-thirds in 1976, a decrease of 4 percent from 1970 (entry 2.4). In the South, this proportion is 56 percent, lower than the National average, and considerably lower than in other regions. Although the number of Hispanic students increased by more than 20 percent between 1970 and 1976, the proportion attending integrated schools dropped during this period (entry 2.5). Less than 29 percent of these students attended integrated schools in 1976.

Progress Through School

The grade in which most children of an age are enrolled in school is called the modal grade. Children's relative progress through school may be measured by whether they are at or below the modal grade for their age. An examination of trends associated with this measure illuminate some of the changes that have occurred in the education system.

In 1950, almost 7 percent of all 8-year-olds were enrolled below the modal grade (entry 2.6). This percentage was higher at each successive age through 15 as more students dropped behind their cohorts in school. Twenty-six percent of 15-year-olds were enrolled below the modal grade in 1950. At ages 16 and 17 the percentage is lower, but so is the percent of students enrolled because many of those who were behind in school dropped out as soon as they passed the age of compulsory attendance—16 in most States. By 1976, while only 10 percent of 15-year-olds were enrolled below the modal grade, the proportion of 16-year-olds enrolled in school had increased from 81 percent in 1950 to almost 96 percent. More children were staying in school and fewer were falling behind.

Changes within school systems between 1950 and 1976 were in large part responsible for the decrease in the number of children enrolled below the modal grade. Many educators believed that retention in grade because of failure to meet academic requirements did more harm than good. Schools began providing remedial classes, summer school programs, and increased counseling services to assist those who failed to complete a year's work. At the secondary level, schools began to offer alternative courses and programs that allowed for a fuller range of academic ability and interests.

Some of the variables related to the progression of a child through school include family income, the education level of the parents, sex, and racial/ethnic characteristics. Enrollment below the modal grade is more frequent at the lowest family income and parental education levels (entry 2.7). A higher proportion of males than females are enrolled below the mode. Compared to the total population, significant differences remain in progress rates of black and Hispanic children. These differences are more pronounced for older youth, 14 to 17 years old. In 1977, almost 7 percent of black and over 9 percent of Hispanic 14- to 17-year-olds were enrolled below the mode compared to 3.5 percent of the total age group.

The type of area and the region of residence may also be related to a child's progression through school (entry 2.8). Enrollment below the mode for 14- to 17-year-olds is higher in nonmetropolitan areas than in central cities and surrounding suburbs, although the gap has been narrowing. The difference was almost 3 percent in 1970, dropping to less than 1 percent in 1977. The South, which has a larger proportion of nonmetropolitan areas than other regions, also has the largest proportion of youth enrolled below mode. But even in metropolitan areas of the South, the proportion is higher than in similar areas of other regions.

As fewer children were being held back in school, public concern was mounting about the quality of education in the public schools. The paramount concern became the possibility that some children were being passed through the system without developing skills necessary for adulthood. An outgrowth of this concern has been the movement toward minimum competency testing. The extent of public pressure for a measure of assurance that children are gaining minimal skills is illustrated by recent survey results. By a two-thirds majority, respondents believed children should be required to pass examinations as a condition for grade promotion (entry 2.9). However, the overwhelming majority rejected a return to the practice of retaining a child in a grade he or she has failed. Eighty-one percent favored requiring special remedial classes rather than having a child repeat the grade after failing a promotion examination.

This public concern, along with issues related to the decline in standardized test scores and the movement toward teacher accountability, has prompted 36 States to initiate activity in minimum competency testing (entry 2.10). Since such activity has been fairly recent, and is still in the experimental stage, many States are adopting a "wait and see" attitude before mandating examinations as a requirement for grade promotion. As of January, 1979, only 3 States were using or planned to use the tests for grade promotion, and 17 States planned to use them as a requirement for high school graduation.

One of the issues related to minimum competency testing is the question of who sets the standards and prepares the tests. One argument is that, given the different needs and priorities of communities, the local school system should perform this function. An opposing argument states the need for uniformity and common expectation for results among school districts in a State. Public opinion is divided on this issue, but a plurality favor local control. Nine States involved in minimum competency testing allow localities to set their own standards. Six States are organizing joint procedures in which the State establishes policy and guidelines while allowing localities to set and implement standards.

The School Environment

Since a student spends about 11,000 hours in class from first to twelfth grades, an examination of conditions that form the school environment is appropriate. Although many of these conditions are not measurable, some can be addressed by looking at the perceptions of people both within and outside the system. Results from two 1978 Gallup Poll surveys show that adults and teenagers differ somewhat in their perceptions of the quality of public schools. Respondents were asked to rate the quality of public schools in their communities by assigning a letter grade from A, the highest, to F, the lowest (entry 2.11). Teenagers and parents of public school children gave the schools a mean rating of C+. The rating by adults with no children in school was slightly lower, and parents of children attending nonpublic schools gave public schools a mean rating of only D+.

Teenagers were also asked to rate the difficulty of school and homework at the elementary and secondary levels in their communities (entry 2.12). The majority of students, both above and below average in academic standing, said school and homework at the elementary level were not hard enough. A plurality of both groups reported the same for work required in the secondary level. Less than one-fourth of the teenagers reported that the work at the secondary level was too hard.

In 1977, 64 percent of secondary school principals surveyed reported that student alternatives for meeting requirements have increased in the past 5 years (entry 2.13). Some of the nontraditional courses being offered in 1977 included social sciences, consumer and family life education, career exploration and ethnic studies (entry 2.14). Students could also earn credit through such programs as off-campus work experience or training, correspondence courses, and credit by examination. Only about 14 percent of secondary schools offered credit through community volunteer programs. However, the prevalence of this credit alternative may increase as a result of public pressure. As chapter 1 noted, 87 percent of the public favored offering such credit for community service to junior and senior high school students. The Gallup Poll survey of teenagers offers similar results. Almost 89 percent of the 13- to 18-year-olds said they would like to see such a plan adopted.

The school environment is also affected by the organization of the education system. Twenty years ago there were 120,953 public schools organized into 47,594 school districts. In 1977, the number of schools and school districts had been reduced to 87,315 and 16,112 respectively (entry 2.15). This reduction occurred as an economy of scale, largely in order to gain financial and staffing advantages that allow for the provision of a wide variety of resources to more students.

The Teachers

Almost all the time students spend in school is in the presence of one or more teachers. The accessibility of students to teachers has increased in the past 20 years as pupil-teacher ratios declined steadily (entry 2.16). While school enrollments were dropping, the number of classroom teachers continued to increase. In 1978 there were over 2.4 million elementary and secondary school teachers in the United States, but that is expected to be the peak year. The total number of teachers is expected to decrease through 1982, although the pattern will be different for elementary and secondary schools, paralleling projected enrollment patterns.

The professional experience of public school teachers changed between 1961 and 1976. As the rate of new entrants to the profession leveled off, the proportion of beginning teachers dropped from a high of more than 18 percent in 1966 to slightly over 11 percent in 1976 (entry 2.17). During the 15-year period, the proportion of teachers with 20 or more years of experience dropped by almost half. In 1976, these very experienced teachers constituted only 14 percent of the profession. There were also dramatic changes in the professional preparation of public school teachers. In 1961, almost 15 percent had less than a bachelor's degree. That proportion was less than 1 percent in 1976. Although the proportion of classroom teachers holding doctor's degrees remained fairly constant, at less than one-half of 1 percent, the proportion with master's degrees increased significantly in just 5 years from 27 to 37 percent in 1976.

Teachers reported devoting over 40 hours per week to teaching duties in 1976 (entry 2.18). Aside from the median of a 36-hour required work week, such noncompensated activities as sponsoring of extracurricular activities, grading papers, and preparing lessons consumed a large proportion of a teacher's time. Teachers worked a median of 185 days in the regular school year, 180 of which are teaching days.

The monetary compensation teachers receive for their work has not kept pace with inflation, as will be discussed more fully in chapter 4. The average salary for beginning teachers, most of whom work 9 to 10 months of the year, was $9,171 in 1978 (entry 2.19). This is lower than that earned by 1976-77 bachelor's degree recipients working full-time in all other occupations, with the exception of social and recreational workers. When adjusted for a 12-month period, the average teacher salary becomes $11,500, just under the overall average salary.

Table 2.1
Preprimary enrollment of children 3 to 5 years old, with trends in enrollment (1967 to 1977) and by family income and age of child (1977)

Trends in preprimary enrollment			
Fall of year	Total children 3 to 5 years old	Children enrolled in preprimary programs	
		Number	Percent
	(Numbers in thousands)		
1967...	12,242	3,868	31.6
1968...	11,905	3,928	33.0
1969...	11,424	3,949	34.6
1970...	10,949	4,104	37.5
1971...	10,610	4,148	39.1
1972...	10,166	4,231	41.6
1973...	10,344	4,234	40.9
1974...	10,393	4,699	45.2
1975...	10,185	4,955	48.7
1976...	9,727	4,787	49.2
1977...	9,249	4,577	49.5

Distribution of preprimary enrollment by family income, 1977								
Age of child	Under $5,000	$5,000 to $9,999	$10,000 to $14,999	$15,000 to $19,999	$20,000 to $24,999	$25,000 to $49,999	$50,000 and over	Income not reported
	(Numbers in thousands)							
All 3- to 5-year-olds...	1,314	1,969	2,316	1,503	892	667	79	507
Percent enrolled....	42.8	41.7	45.6	56.2	57.5	69.6	75.7	50.7
All 3-year-olds.....	428	667	764	486	271	200	24	140
Percent enrolled....	13.7	13.3	17.1	27.9	31.8	53.3	51.6	19.6
All 4-year-olds.....	459	607	742	496	315	232	17	193
Percent enrolled....	37.6	31.0	36.8	50.2	51.5	68.1	67.2	39.7
All 5-year-olds.....	427	695	810	521	307	236	39	175
Percent enrolled....	77.5	78.3	80.5	88.1	86.5	84.9	94.3	87.7

SOURCE: U. S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Preprimary Enrollment, October 1975* and unpublished data.

Chart 2.1
Preprimary Enrollment of Children 3 to 5 Years Old

Although the total number of 3- to 5-year-olds has declined in the past decade, the proportion of those enrolled in preprimary programs continues to increase. The percent of children enrolled tends to increase with family income.

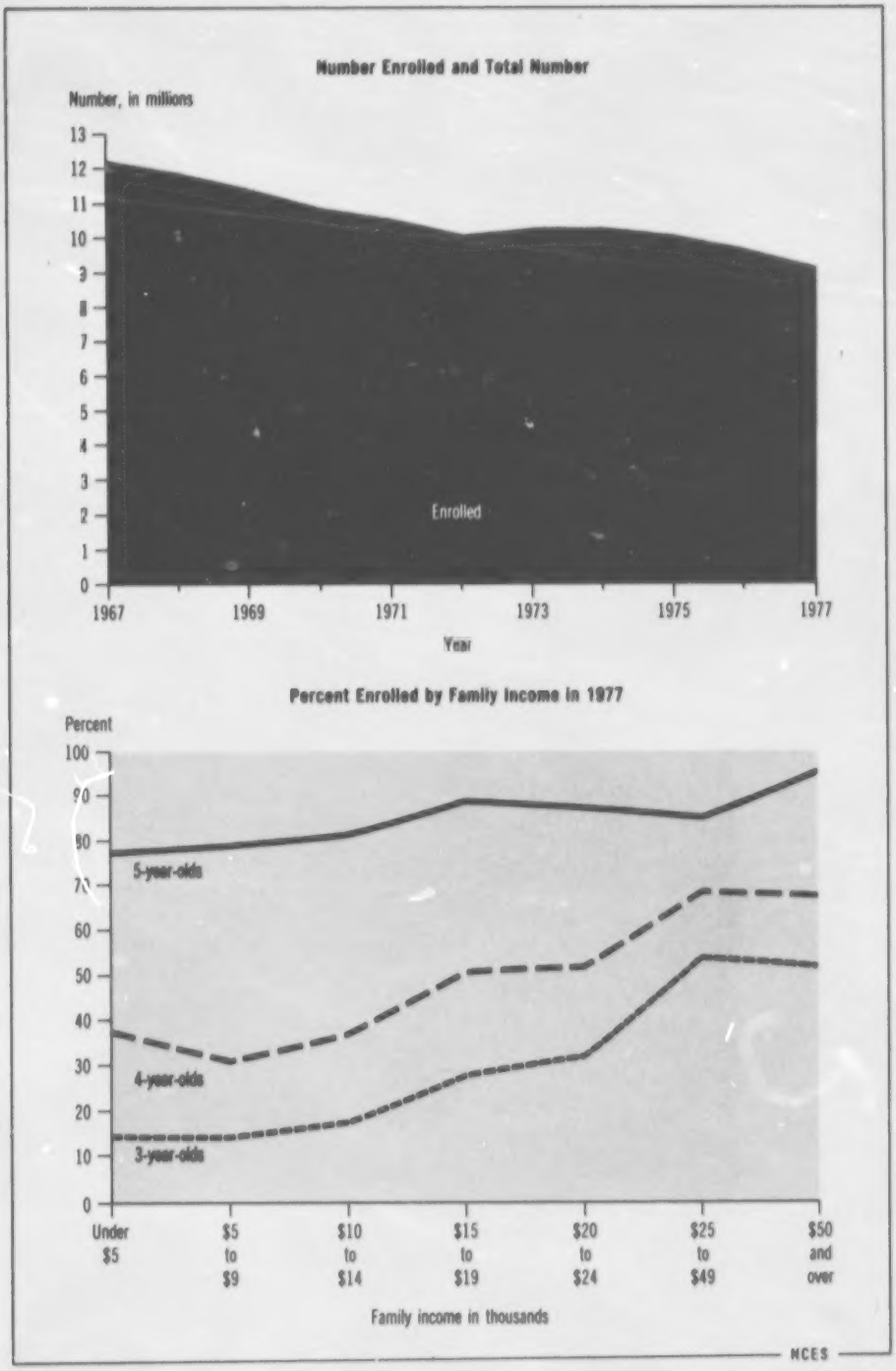


Table 2.2
Enrollment in grades K-8 and 9-12 of regular day schools, by control of school: Fall 1968 to 1986

Fall of year	All schools			Public schools			Nonpublic schools (estimated)		
	Total	K-8	9-12	Total	K-8	9-12	Total	K-8	9-12
				(In thousands)					
1968....	50,744	36,626	14,118	44,944	32,226	12,718	5,800	4,400	1,400
1969....	51,119	36,797	14,322	45,619	32,597	13,022	5,500	4,200	1,300
1970....	51,309	36,677	14,632	45,909	32,577	13,332	5,400	4,100	1,300
1971....	51,181	36,065	15,116	46,081	32,265	13,816	5,100	3,800	1,300
1972....	50,744	35,531	15,213	45,744	31,831	13,913	5,000	3,700	1,300
1973....	50,329	34,953	15,377	45,429	31,353	14,077	4,900	3,600	1,300
1974....	50,053	34,521	15,532	45,053	30,921	14,132	5,000	3,600	1,400
1975....	49,791	34,087	15,704	44,791	30,487	14,304	5,000	3,600	1,400
1976....	49,335	33,612	15,723	44,335	30,012	14,323	5,000	3,600	1,400
1977....	48,731	33,031	15,700	43,731	29,431	14,300	5,000	3,600	1,400
1978[1]...	47,778	32,323	15,455	42,778	28,723	14,055	5,000	3,600	1,400
				Projected					
1979....	46,930	31,819	15,111	41,930	28,219	13,711	5,000	3,600	1,400
1980....	46,094	31,491	14,603	41,094	27,891	13,203	5,000	3,600	1,400
1981....	45,387	31,311	14,076	40,387	27,711	12,676	5,000	3,600	1,400
1982....	44,809	31,243	13,566	39,809	27,643	12,166	5,000	3,600	1,400
1983....	44,528	31,229	13,299	39,528	27,629	11,899	5,000	3,600	1,400
1984....	44,546	31,252	13,294	39,546	27,652	11,894	5,000	3,600	1,400
1985....	44,794	31,431	13,363	39,794	27,831	11,963	5,000	3,600	1,400
1986....	45,244	32,032	13,212	40,244	28,432	11,812	5,000	3,600	1,400

[1] Estimated.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1986-87, 1978*, and unpublished data.

Chart 2.2
Enrollment in Elementary and Secondary Schools

Between 1971 and 1978, enrollments in regular day schools declined due to the decline in the birth rate beginning in the mid-1960's. This enrollment decline is expected to continue, at least until the mid-1980's.

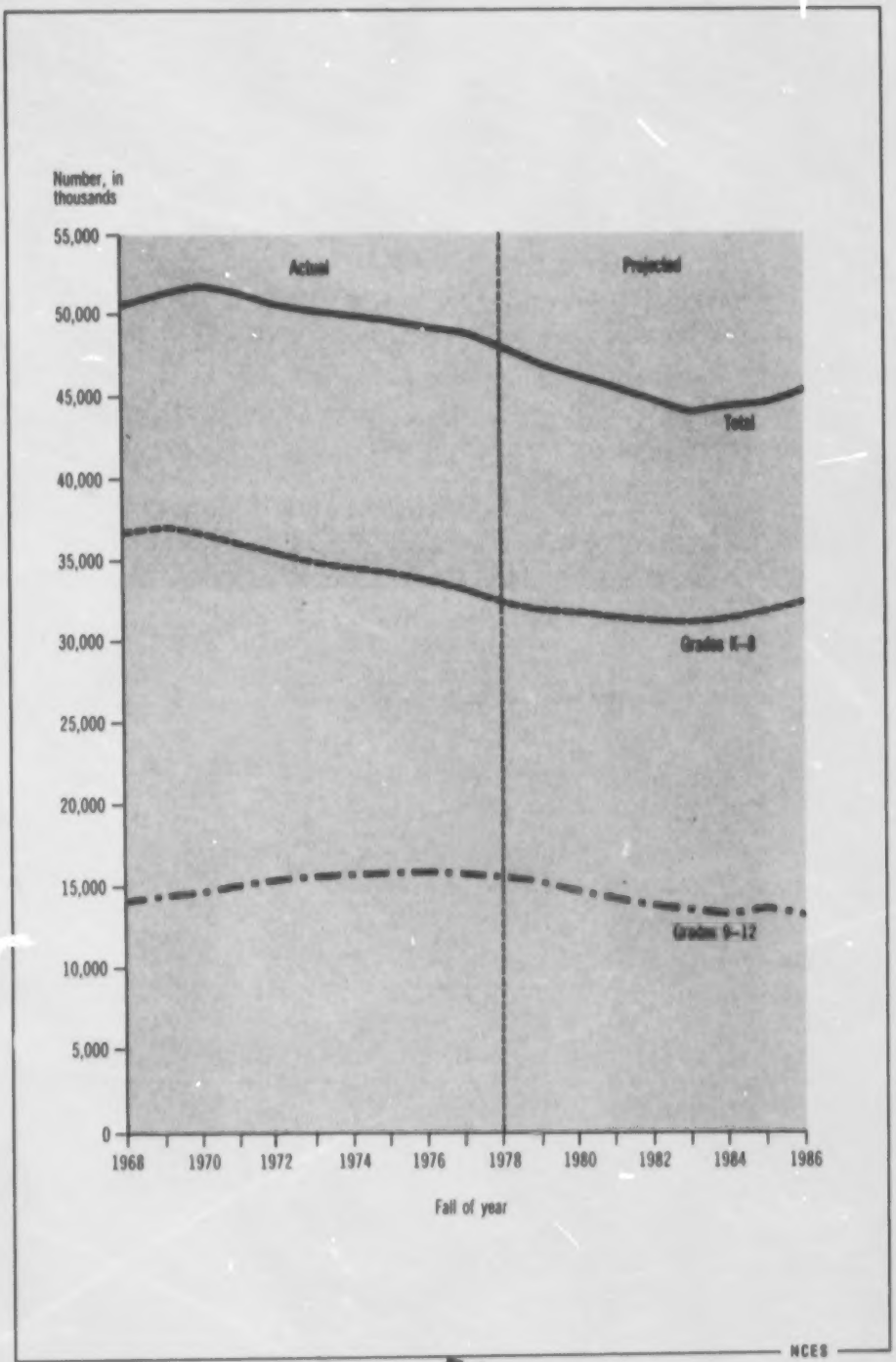


Table 2.3
Enrollment in private elementary and secondary schools as percent of total enrollment, by race and type of area: 1967, 1972, and 1977

Level and type of area	White			Black		
	1967	1972	1977	1967	1972	1977
	(Numbers, in thousands)					
Elementary						
United States						
Total enrollment	28,415	29,818	26,873	4,618	5,021	4,887
Private enrollment as percent of total	15.4	12.6	12.7	3.7	4.7	5.5
Metropolitan-in central cities						
Total enrollment	6,277	7,127	5,686	2,381	2,956	2,675
Private enrollment as percent of total	24.3	19.9	22.3	6.1	6.2	7.9
Metropolitan-outside central cities						
Total enrollment	11,323	12,603	11,736	656	782	859
Private enrollment as percent of total	16.6	13.0	12.1	1.4	5.4	5.8
Nonmetropolitan						
Total enrollment	10,815	10,089	9,451	1,581	1,284	1,350
Private enrollment as percent of total	9.0	7.0	7.6	1.2	1.1	.7
Secondary						
United States						
Total enrollment	11,997	12,959	13,152	1,615	2,025	2,327
Private enrollment as percent of total	10.2	8.4	8.9	2.8	2.7	2.5
Metropolitan-in central cities						
Total enrollment	2,774	2,939	2,649	832	1,181	1,273
Private enrollment as percent of total	18.6	16.3	19.8	4.1	4.1	2.7
Metropolitan-outside central cities						
Total enrollment	4,767	5,689	6,002	280	359	465
Private enrollment as percent of total	10.9	8.3	7.7	1.8	1.7	4.7
Nonmetropolitan						
Total enrollment	4,456	4,331	4,502	538	485	589
Private enrollment as percent of total	4.3	3.0	4.1	1.1	.0	.3

SOURCE: U.S. Department of Commerce, Bureau of the Census, *School Enrollment-Social and Economic Characteristics of Students*, Series P-20, Nos. 190, 260, 333, and unpublished tabulations.

Chart 2.3
Enrollment in Private Elementary and Secondary Schools

Overall, enrollment in private elementary schools was greater in 1967 than in 1977 for whites but the reverse is true for blacks. A greater percentage of students living in metropolitan central cities attend private schools than those living outside these areas.

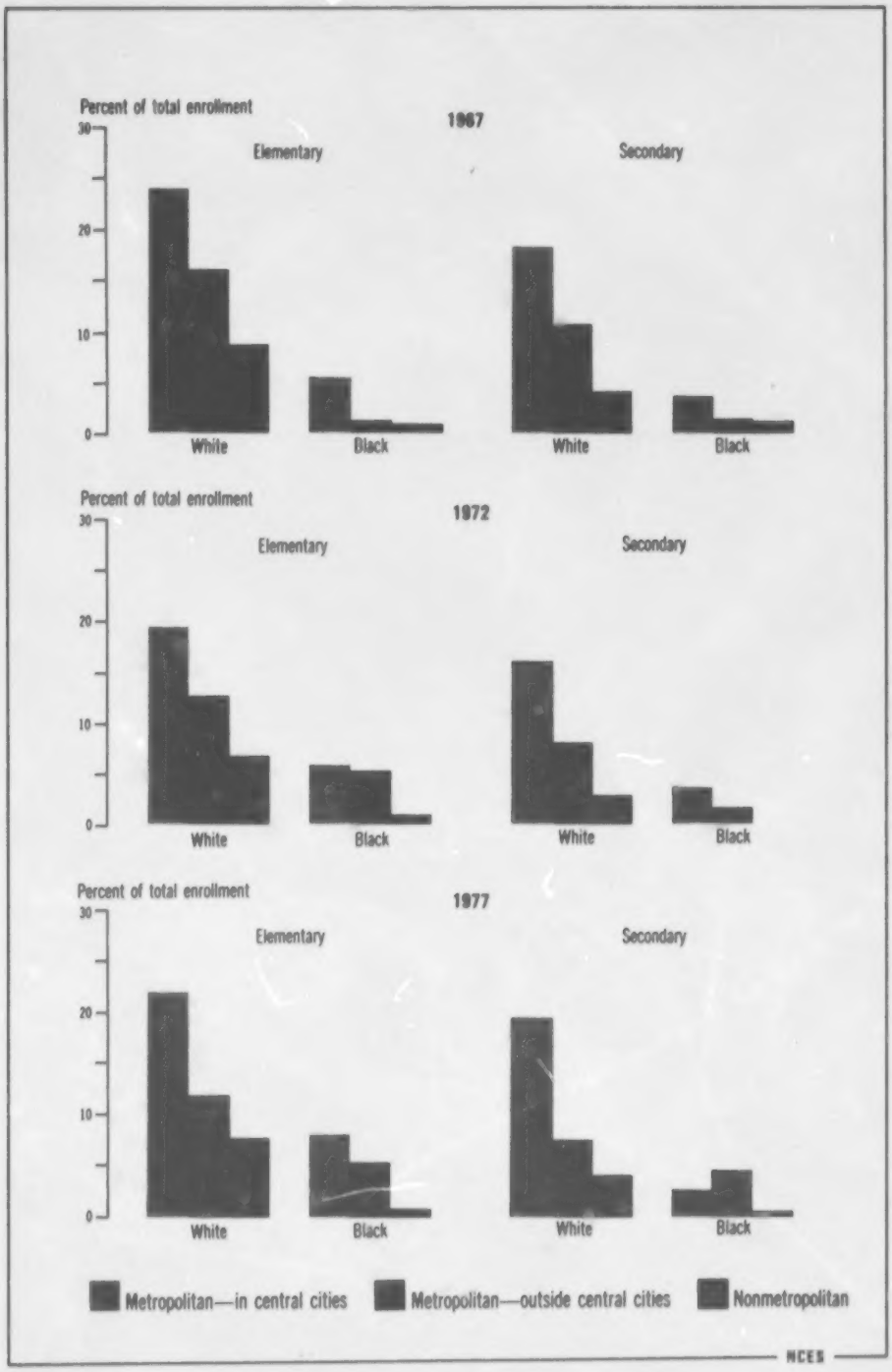


Table 2.4
Number and percent of black students attending public schools in selected school districts,[1] by minority composition of school and geographic area: Continental United States, fall 1970, 1972, 1974, and 1976

Area	Number of black students	Percent of black students		
		Attending 0–49% minority schools	Attending 50–89% minority schools	Attending 90–100% minority schools
Continental U.S.:				
1970	5,970,143	28.7	24.4	46.9
1972	6,054,966	32.1	25.5	42.3
1974	5,931,277	32.9	26.2	40.9
1976	5,995,000	32.7	27.8	39.5
Northeast:				
1970	935,137	20.1	26.3	53.6
1972	964,469	19.4	25.0	55.7
1974	902,834	18.0	23.1	58.9
1976	944,397	16.9	24.0	59.1
Border States and D.C.:				
1970	556,274	21.6	14.2	64.3
1972	567,036	25.3	13.1	61.6
1974	553,310	29.0	13.4	57.6
1976	545,588	27.9	20.0	52.2
South:				
1970	2,991,948	37.9	27.8	34.3
1972	3,002,310	43.7	30.5	25.7
1974	2,978,796	44.2	32.1	23.7
1976	3,003,687	43.8	32.7	23.4
Midwest:				
1970	1,037,296	15.5	18.6	66.0
1972	1,057,912	17.4	18.1	64.5
1974	1,040,917	18.6	17.7	63.7
1976	1,044,296	20.9	19.7	59.4
West:				
1970	449,488	25.0	23.8	51.2
1972	463,239	25.8	26.6	47.5
1974	455,411	26.2	28.2	45.7
1976	457,032	25.5	30.6	43.9

[1] For purposes of comparison analysis was restricted to the 1,910 districts which were included in all four surveys. The selected districts included approximately 88 percent of all black students enrolled in public schools in the Continental United States for 1976.

SOURCE: U.S. Department of Health, Education, and Welfare, Office for Civil Rights, *Distribution of Students by Racial/Ethnic Composition of Schools, 1970–1976*, August, 1978.

Chart 2.4
Distribution of Black Students in Public Elementary and Secondary Schools

Racial isolation of black public school students has increased only in the Northeast region since 1970. In the South, where the largest number of black students attend school, less than one-fourth attend schools that are racially isolated.

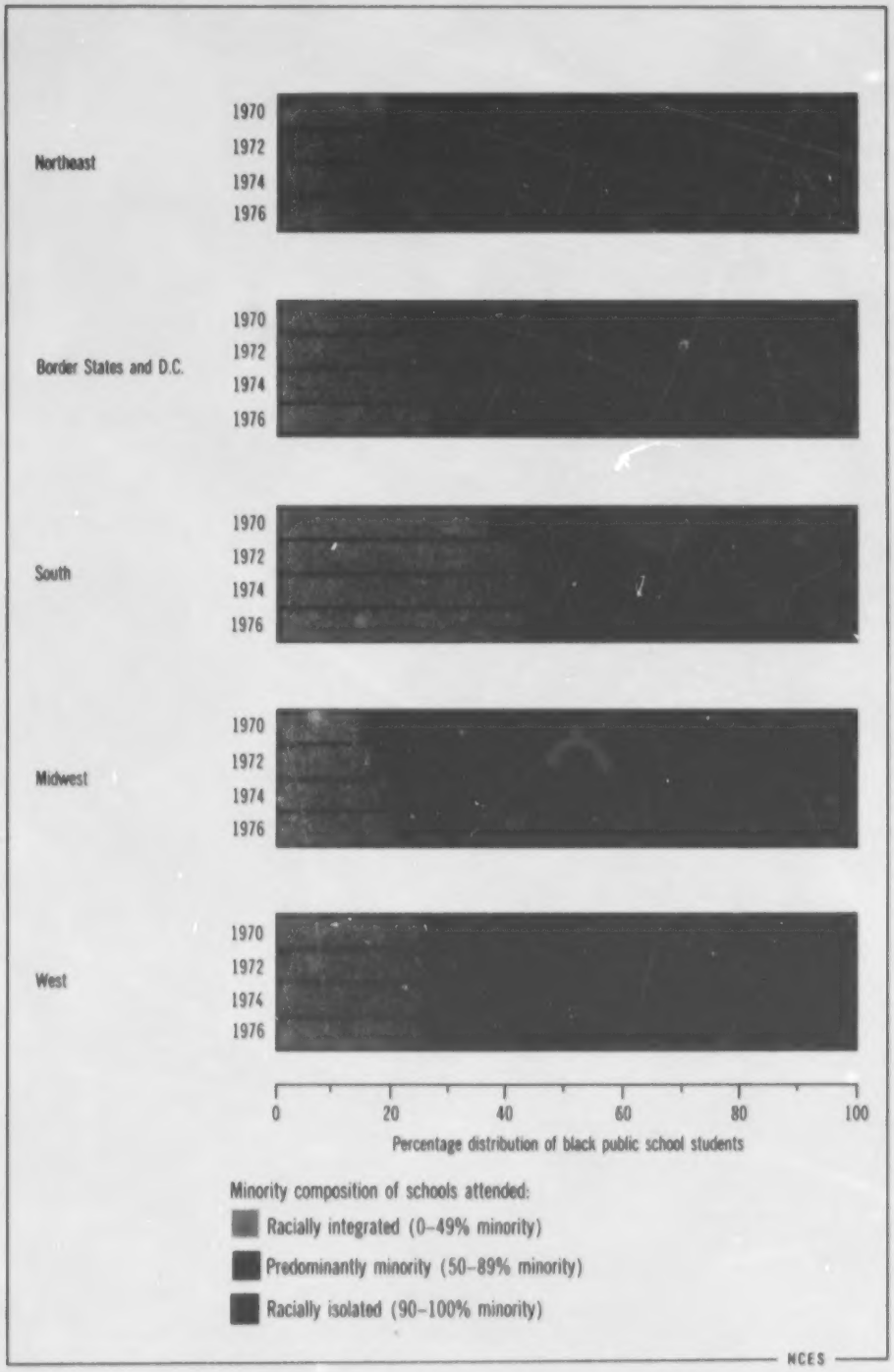


Table 2.5
Number and percent of Hispanic students attending public schools in selected school districts,[1] by minority composition of school and geographic area: Continental United States, fall 1970, 1972, 1974, and 1976

Area	Number of Hispanic students	Percent of Hispanic students		
		Attending 0-49% minority schools	Attending 50-89% minority schools	Attending 90-100% minority schools
Continental U.S.:				
1970	1,563,647	34.6	35.2	30.2
1972	1,671,011	34.1	35.7	30.3
1974	1,747,658	32.2	36.6	31.1
1976	1,903,811	28.7	38.6	32.6
Northeast:				
1970	376,287	15.2	34.0	50.8
1972	400,681	16.4	32.3	51.2
1974	383,957	15.3	29.8	54.9
1976	440,941	14.4	31.7	53.9
Border States and D.C.:				
1970	9,072	89.2	7.6	3.2
1972	11,029	85.7	10.8	3.5
1974	13,693	78.1	16.8	5.1
1976	15,326	75.8	18.4	5.9
South:				
1970	469,326	27.7	35.5	36.7
1972	514,144	28.4	35.6	36.0
1974	560,209	28.5	37.1	34.4
1976	598,382	26.5	38.0	35.5
Midwest:				
1970	103,901	48.1	40.8	11.2
1972	114,166	47.6	37.8	14.6
1974	122,808	44.3	35.2	20.5
1976	129,000	39.6	36.7	23.7
West:				
1970	605,061	48.9	35.1	16.0
1972	630,991	46.6	37.9	15.5
1974	666,991	42.0	40.8	17.2
1976	720,162	36.4	44.2	19.4

[1] For purposes of comparison, analysis was restricted to the 1,910 districts which were included in all four surveys. The selected districts include approximately 67 percent of all Hispanic students enrolled in public schools in the Continental United States for 1976.

SOURCE: U.S. Department of Health, Education, and Welfare, Office for Civil Rights, *Distribution of Students by Racial/Ethnic Composition of Schools 1970–1976*, August, 1978.

Chart 2.5
Distribution of Hispanic Students in Public Elementary and Secondary Schools

In every region, the proportion of Hispanic students attending racially integrated schools has declined, while the proportion attending racially isolated schools has increased.

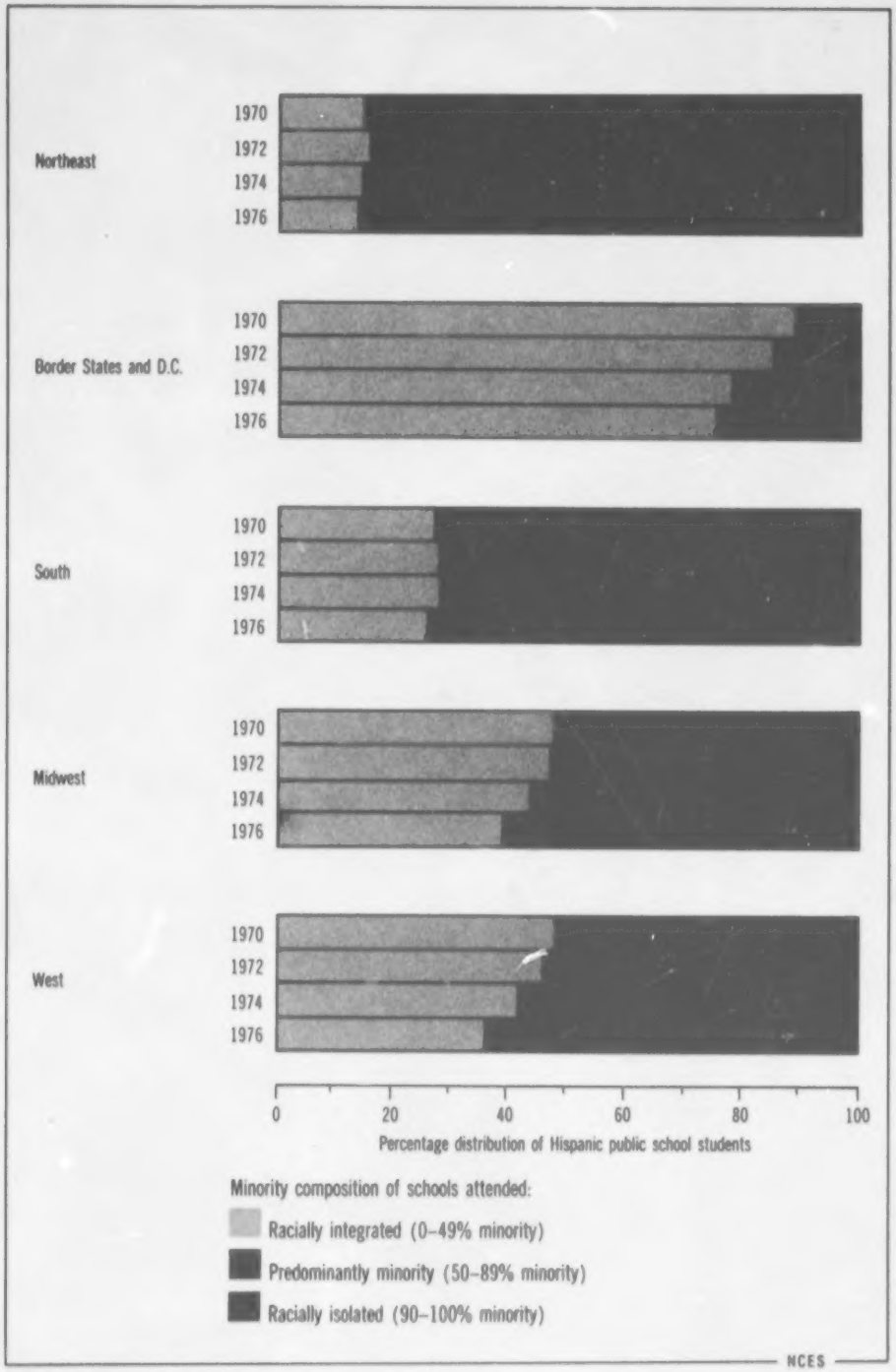


Table 2.6
Persons 8 to 17 years old, percent enrolled, and percent enrolled below modal grade [1] by age: 1950, 1960, 1970, and 1976

Age and enrollment status	1950	1960	1970	1976 [2]
	(Numbers, in thousands)			
8 years old				
Number	2,560	3,622	4,052	3,347
Percent enrolled	95.6	97.8	97.2	99.8
Percent below modal grade	6.6	4.0	3.4	3.8
9 years old				
Number	2,349	3,476	4,128	3,463
Percent enrolled	96.1	98.0	97.4	99.6
Percent below modal grade	11.2	6.5	5.1	4.9
10 years old				
Number	2,321	3,487	4,282	3,670
Percent enrolled	96.0	97.9	97.0	99.8
Percent below modal grade	15.7	8.1	6.7	5.7
11 years old				
Number	2,229	3,483	4,127	3,865
Percent enrolled	96.3	97.8	97.6	99.7
Percent below modal grade	18.0	9.2	7.4	6.7
12 years old				
Number	2,298	3,584	4,183	3,953
Percent enrolled	95.9	97.5	97.6	99.5
Percent below modal grade	21.6	10.5	8.4	7.5
13 years old				
Number	2,190	3,515	4,102	4,070
Percent enrolled	95.9	97.0	97.4	99.5
Percent below modal grade	23.6	11.7	9.0	8.0
14 years old				
Number	2,137	2,748	4,095	4,168
Percent enrolled	94.8	95.3	96.2	98.6
Percent below modal grade	25.0	13.9	10.2	8.5
15 years old				
Number	2,130	2,802	4,029	4,202
Percent enrolled	91.4	92.9	95.5	98.0
Percent below modal grade	26.4	15.2	10.7	9.6
16 years old				
Number	2,080	2,839	3,890	4,131
Percent enrolled	80.9	86.3	92.1	95.9
Percent below modal grade	24.6	15.0	10.8	11.0
17 years old				
Number	2,094	2,872	3,825	3,910
Percent enrolled	68.2	75.6	86.3	90.9
Percent below modal grade	22.0	14.9	11.0	11.2

[1] Modal grade is the grade or grades in which most children of an age are enrolled.
[2] Data for 1976 is from the Survey of Income and Education. Data for 1950, 1960, and 1970 are from decennial censuses. Data were collected during the spring of each of these years.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Relative Progress of Children in School: 1976*, 1979.

Chart 2.6
Enrollment Below the Modal Grade

Since 1950, the percent of students enrolled in school has increased, while the proportion enrolled below the modal grade has decreased.

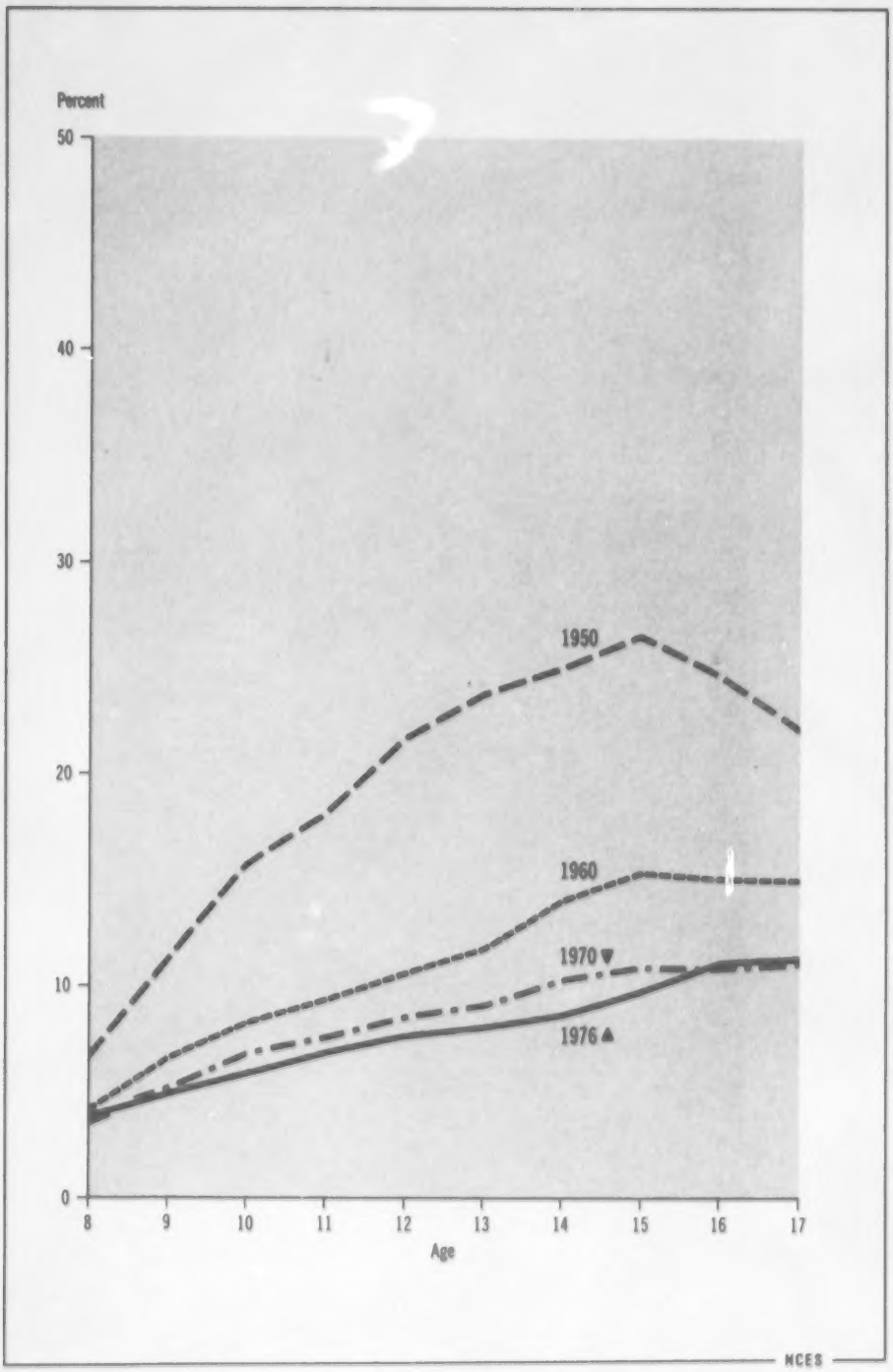


Table 2.7
Enrollment in school and modal grade status of persons 8 to 17 years old in families, by family income, education of family head, racial/ethnic group, and sex; 1970 and 1977

Item	8- to 13-year-olds		14- to 17-year-olds	
	Number enrolled	Percent enrolled 2 or more years below modal grade	Number enrolled	Percent enrolled 2 or more years below modal grade
	(Numbers, in thousands)			
	1970			
Total	24,846	2.9	14,329	5.5
Family income[1]				
Under $5,000	4,337	7.2	2,448	14.4
$5,000 to $9,999	9,271	2.7	5,203	5.5
$10,000 to $14,999	6,103	1.1	3,550	2.5
$15,000 and over	3,237	.8	2,331	.9
Not reported	1,898	3.2	1,085	4.1
Education of family head				
Less than 4 years of high school	9,541	5.1	6,072	9.6
High school, 4 years	8,993	1.6	4,611	2.9
College, 1 or more years	6,312	1.4	3,647	2.2
Racial/ethnic group				
White	21,120	2.4	12,379	4.5
Black	3,432	5.7	1,797	12.6
Hispanic[2]	NA	NA	NA	NA
Sex				
Male	12,591	3.6	7,321	6.9
Female	12,255	2.1	7,009	4.2
	1977			
Total	21,537	1.9	15,108	3.5
Family income[1]				
Under $5,000	4,573	4.1	2,782	8.8
$5,000 to $9,999	6,909	1.7	4,460	3.3
$10,000 to $14,999	4,920	.9	3,512	1.6
$15,000 and over	3,329	.8	2,967	1.2
Not reported	1,796	2.0	1,367	3.2
Education of family head				
Less than 4 years of high school	6,618	3.9	4,853	6.9
High school, 4 years	8,004	1.2	5,388	2.2
College, 1 or more years	6,915	.8	4,867	1.6
Racial/ethnic group				
White	17,972	1.6	12,698	2.9
Black	3,152	3.5	2,158	6.8
Hispanic[2]	1,325	3.0	889	9.4
Sex				
Male	10,961	2.4	7,748	4.4
Female	10,576	1.4	7,361	2.5

NA: Not available.

[1] Family income in 1970 dollars.
[2] Categories are not discrete (i.e., a person may be counted in both white and Hispanic categories).

SOURCE: U.S. Department of Commerce, Bureau of the Census, unpublished tabulations.

Chart 2.7
Modal Grade Status of 8- to 17-Year-Olds

The higher the education level of the family head and the higher the family's income, the less likely a student will be enrolled below the modal grade. Males are more likely to be held back in school than females.

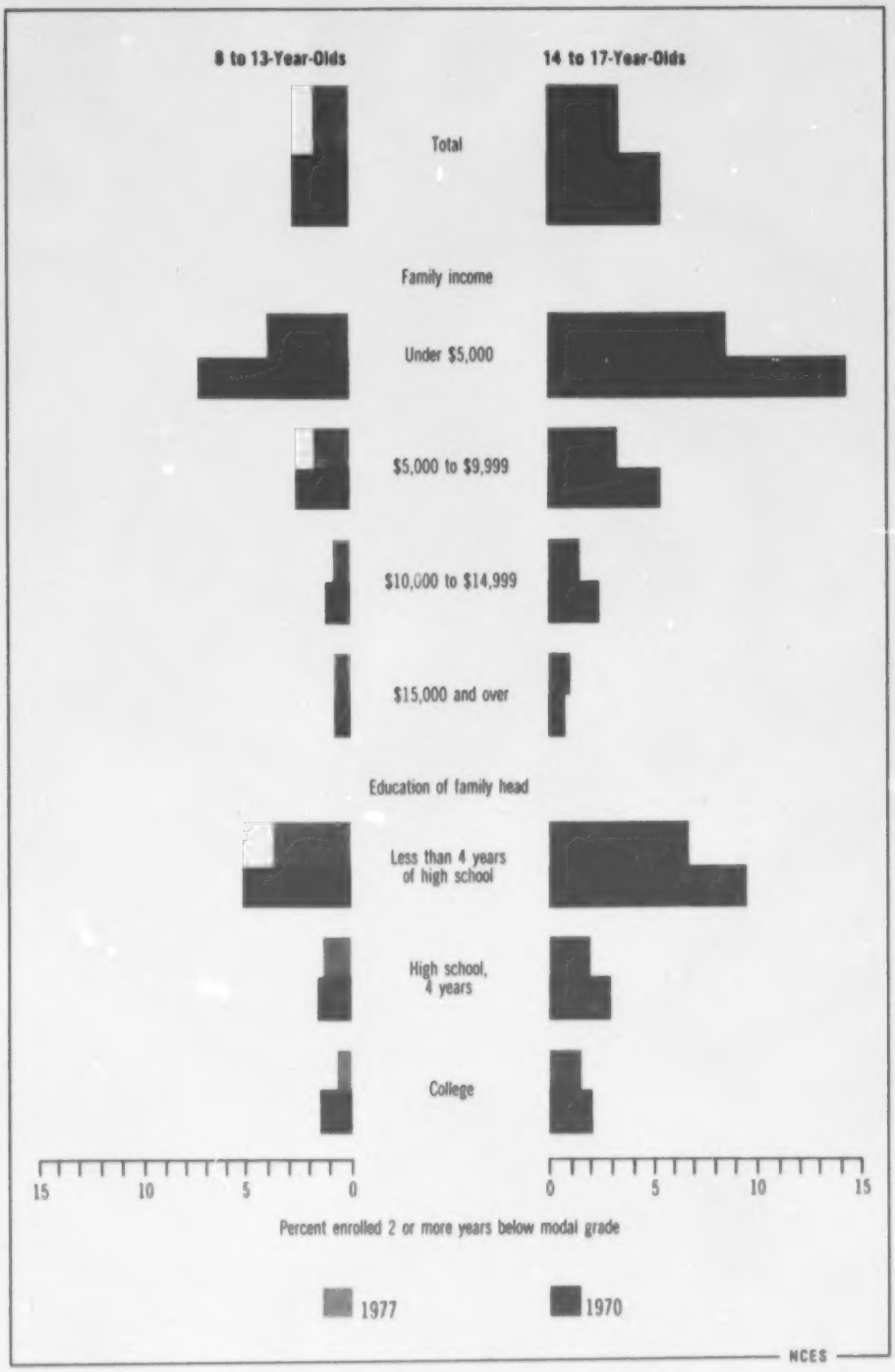


Table 2.8
Persons 14 to 17 years old enrolled 2 or more years below modal grade as a percent of all 14- to 17-year-olds enrolled, by race, region, and type of area: 1970 to 1977

Region and type of area	1970			1971			1973		
	Total	White	Black	Total	White	Black	Total	White	Black
United States	5.5	4.5	12.6	5.3	4.3	12.0	3.9	3.1	9.7
Metropolitan area	4.5	3.4	11.7	4.5	3.5	10.3	3.6	2.7	8.8
Nonmetropolitan area	7.3	6.4	14.7	6.7	5.6	16.1	4.7	3.8	12.4
Northeast	4.7	**4.1**	**9.8**	4.6	**4.1**	**8.9**	3.7	**2.8**	**11.4**
Metropolitan area	4.7	4.1	9.1	4.5	3.7	9.3	3.7	2.5	11.6
Nonmetropolitan area	4.5	4.1	(1)	4.8	4.9	(1)	3.7	3.7	(1)
Central	3.5	**2.6**	**12.3**	3.1	**2.7**	**6.7**	3.3	**2.8**	**8.8**
Metropolitan area	3.5	1.9	12.7	2.8	2.2	6.4	3.6	2.8	8.5
Nonmetropolitan area	3.5	3.5	(1)	3.6	3.4	(1)	2.8	2.6	(1)
South	10.2	**8.8**	**15.2**	9.4	**7.4**	**16.1**	5.7	**4.3**	**10.6**
Metropolitan area	8.2	6.3	15.6	8.0	6.1	15.2	5.0	3.9	9.0
Nonmetropolitan area	12.2	11.3	14.8	10.8	9.0	17.0	6.5	4.7	12.5
West	1.8	**1.8**	**2.9**	2.9	**2.7**	**6.5**	2.2	**2.1**	**1.8**
Metropolitan area	1.2	1.2	1.2	2.4	2.2	5.6	1.5	1.5	1.8
Nonmetropolitan area	3.3	3.2	(1)	4.0	3.7	(1)	4.8	4.4	(1)

Region and type of area	1975			1977		
	Total	White	Black	Total	White	Black
United States	4.1	3.3	9.1	3.5	2.9	6.8
Metropolitan area	3.7	2.8	8.3	3.2	2.6	6.0
Nonmetropolitan area	5.1	4.2	11.7	4.1	3.5	8.9
Northeast	3.3	**2.8**	**6.7**	3.6	**3.2**	**6.1**
Metropolitan area	3.1	2.5	6.3	3.6	3.1	5.9
Nonmetropolitan area	4.0	3.7	(1)	3.7	3.6	(1)
Central	3.2	**2.6**	**8.8**	1.9	**1.6**	**4.3**
Metropolitan area	3.4	2.5	9.4	1.9	1.4	4.5
Nonmetropolitan area	2.7	2.8	(1)	1.8	1.8	(1)
South	6.8	**5.5**	**11.1**	5.5	**4.6**	**8.7**
Metropolitan area	6.2	5.0	10.2	5.0	4.0	8.3
Nonmetropolitan area	7.6	6.1	12.3	6.2	5.3	9.2
West	2.1	**1.6**	**3.1**	2.3	**2.1**	**2.5**
Metropolitan area	1.7	1.2	3.2	2.0	2.0	2.6
Nonmetropolitan area	3.1	2.8	(1)	3.0	2.5	(1)

[1] Base less than 50,000.

SOURCE: U.S. Department of Commerce, Bureau of the Census, unpublished tabulations.

Chart 2.8
14- to 17-Year-Olds Enrolled Below Modal Grade

Black students in the 14- to 17-year-old age group are more likely to be held back in school than are white students in every region, although the percent enrolled below the mode for both groups has declined since 1970.

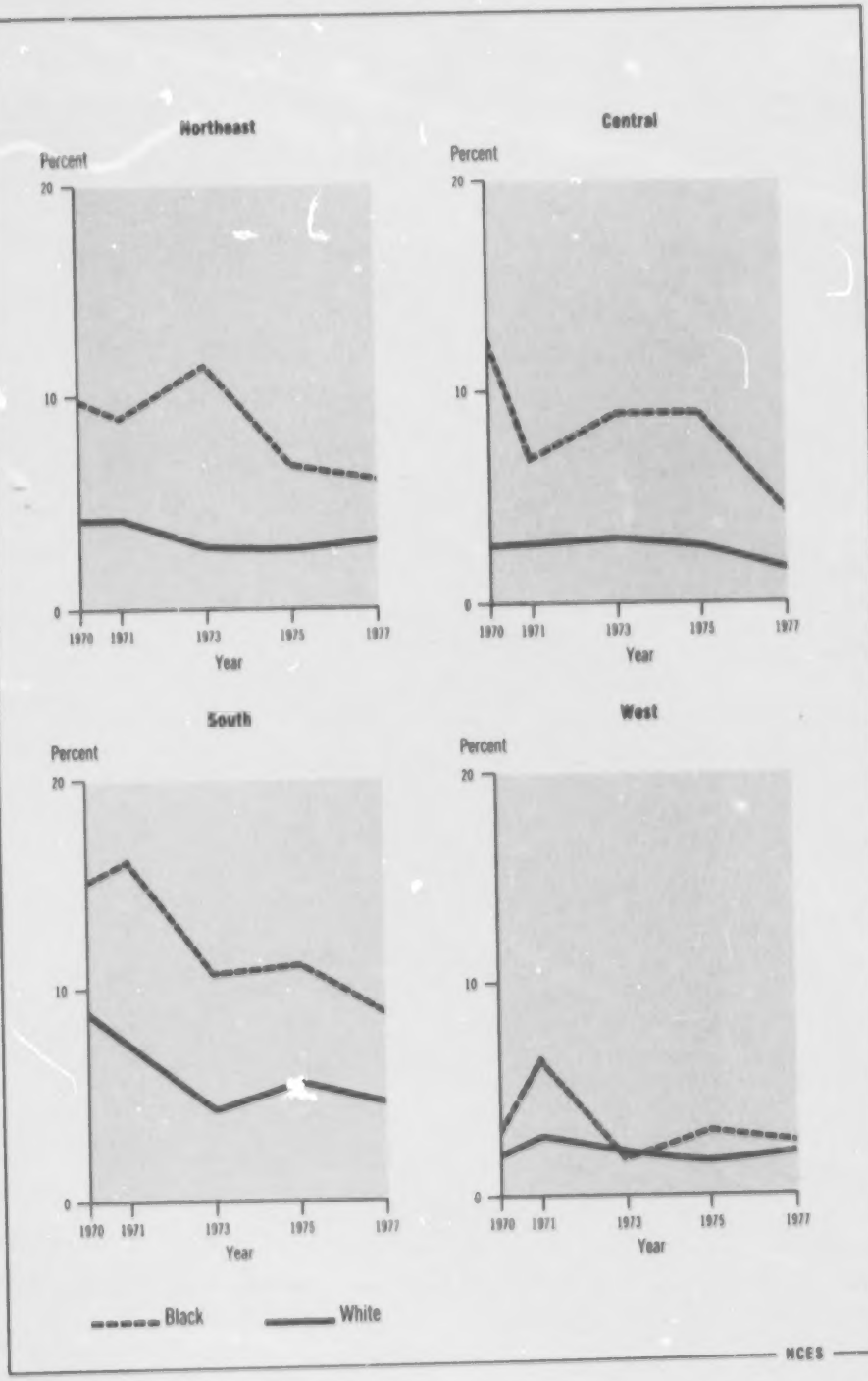


Table 2.9
Public opinion on the use of examinations for grade promotion: 1978

"In your opinion, should children be promoted from grade to grade only if they can pass examinations?"

Responses to question	Totals	No children in school	Public school parents	Nonpublic school parents
	Percentage distribution			
Total	100	100	100	100
Yes, they should	68	71	60	59
No, they shouldn't	27	24	35	38
Don't know/no answer	5	5	5	3

"Should students who fail be required to take special remedial classes in the subjects they fail or should they be required to repeat the whole year's work?"

Responses to question	Totals	No children in school	Public school parents	Nonpublic school parents
	Percentage distribution			
Total	100	100	100	100
Yes, special classes	81	80	82	87
No, repeat whole year's work	14	14	14	9
Don't know/no answer	5	6	4	4

"Which of three ways do you prefer—having tests prepared on a local, State, or National basis?"

Responses to question	Totals	No children in school	Public school parents	Nonpublic school parents
	Percentage distribution			
Total	100	100	100	100
Local basis	37	38	36	38
State basis	25	24	27	19
National basis	28	27	30	39
Don't know/no answer	10	11	7	4

SOURCE: Phi Delta Kappa, Inc., "The Tenth Annual Gallup Poll of the Public's Attitudes Toward the Public Schools", *Phi Delta Kappan*, September, 1978.

Chart 2.9
Examinations for Grade Promotion: Public Opinion

More than two-thirds of the public believe examinations should be used to determine grade promotion, but 81 percent would rather students who fail be given special remedial classes than be required to repeat the whole year's work.

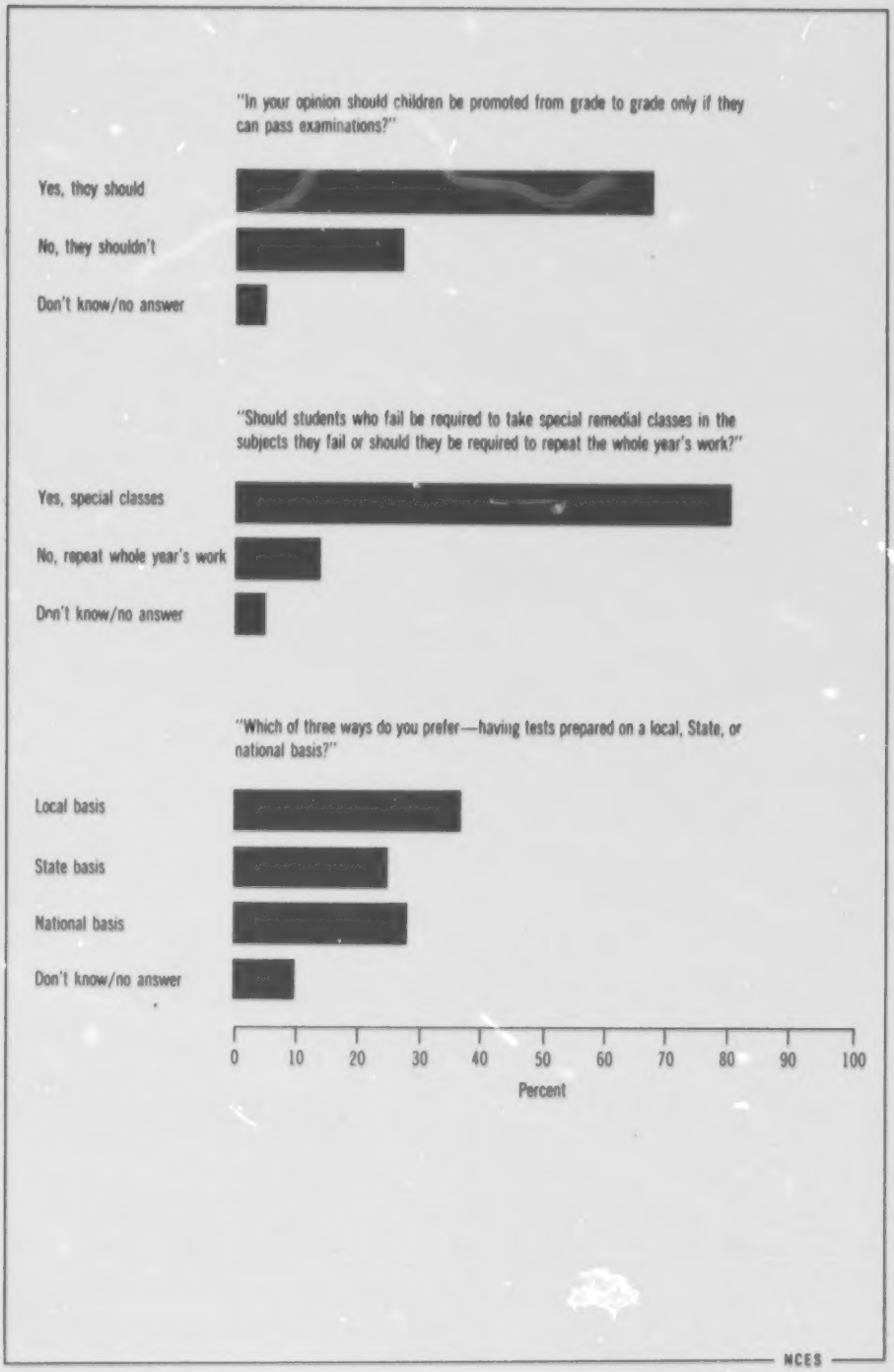


Table 2.10
States using minimum competency testing, by government level at which standards are set, grade levels assessed, and expected uses of standards: 1978

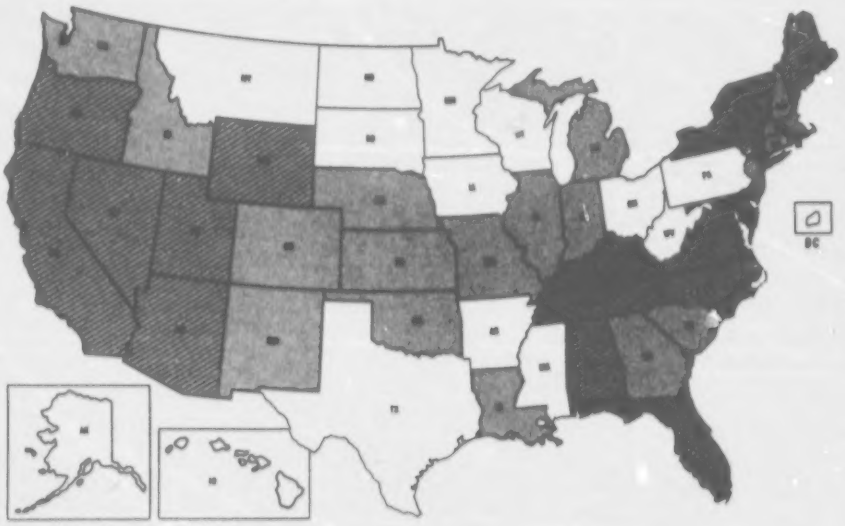
States using minimum competency testing	Government level setting standards	Grade levels assessed	Expected [1] uses of standards		
			Grade promotion	High school graduation	Other
Alabama	State	9–12		X	
Arizona	State and local	8, 12		X	X
California	State and local	4–6, 7–9, 10, 11		X	X
Colorado	Local	9–12			X
Connecticut	State and local	3, 5, 7, 9			X
Delaware	State	11		X	
Florida	State and local	3, 5, 8, 11	X	X	X
Georgia	State	4, 8, 11			X
Idaho	State	9–12			X
Illinois	Local	Local option			X
Indiana	Local	3, 6, 10			X
Kansas	State	2, 4, 6, 8, 9, 11, 12			X
Kentucky	State	3, 5, 8, 11	X	X	X
Louisiana	State	4, 8, 11			X
Maine	State	11		X	
Maryland	State	3, 7, 9, 11	X	X	
Massachusetts	Local	Local option			X
Michigan	State	4, 7, 10			X
Missouri	State	8			X
Nebraska	Local	5–12			X
Nevada	State	6, 9, 12		X	X
New Hampshire	State	4, 8, 12			X
New Jersey	State	3, 6, 9, 11			X
New Mexico	State	Local option			X
New York	State	3, 6, 8, 9, 10, 11, 12		X	X
North Carolina	State	1, 2, 3, 6, 9, 11		X	X
Oregon	Local	Local option		X	
Oklahoma	Under study	3, 6, 9, 12			X
Rhode Island	State	4, 8, 12			X
South Carolina	State	1, 2, 3, 8, 11			X
Tennessee	State and local	4, 5, 6, 8, 11, 12		X	X
Utah	Local	Local option		X	
Vermont	State	1–12		X	
Virginia	State and local	K–6, 9–12		X	X
Washington	Local	4, 8			X
Wyoming	Local	Local option		X	

[1] In most States uses of standards will be phased in and are not yet in effect.

SOURCE: Education Commission of the States, Department of Research and Information, *States Activity—Minimum Competency Testing*, January, 1979.

Chart 2.10
Minimum Competency Testing in the States

Of the thirty-six States active in developing and using minimum competency testing, less than half plan to use the examinations as a requirement for high school graduation. Three States plan to use the tests as a requirement for grade promotion.



Testing used

Testing used for high school graduation

Testing used for grade promotion and high school graduation

NCES

Table 2.11
Opinion of students and adults on the quality of the public schools: 1978

"Students are often given the grades A, B, C, D, and F (fail) to denote the quality of their work. Suppose the public schools themselves, in this community, were graded in the same way. What grade would you give the public schools here—A, B, C, D, or F?"

Item	Students 13 to 18 years old	Public school parents	Nonpublic school parents	No children in school
	Percentage distribution			
Total	100	100	100	100
A rating	10	15	4	7
B rating	45	36	19	24
C rating	30	32	30	29
D rating	9	10	11	11
F (fail) rating	5	5	21	9
Don't know/no response	1	2	15	2
Mean rating [1]	2.48	2.47	1.69	2.11

[1] Calculated on a 4-point scale with 4 = A, 3 = B, 2 = C, 1 = D, 0 = F.

SOURCE: The Gallup Poll and The Charles F. Kettering Foundation, "The Attitudes of America's Youth Toward the Public Schools", 1978, advance data; Phi Delta Kappa, Inc., "Tenth Annual Gallup Poll of the Public Attitudes Towards the Public Schools," *Phi Delta Kappan*, September, 1978.

Chart 2.11
Quality of the Public Schools: Student and Adult Opinion

Teenagers and parents of public school children give higher ratings to the public schools than do parents of nonpublic school children and adults with no children in school.

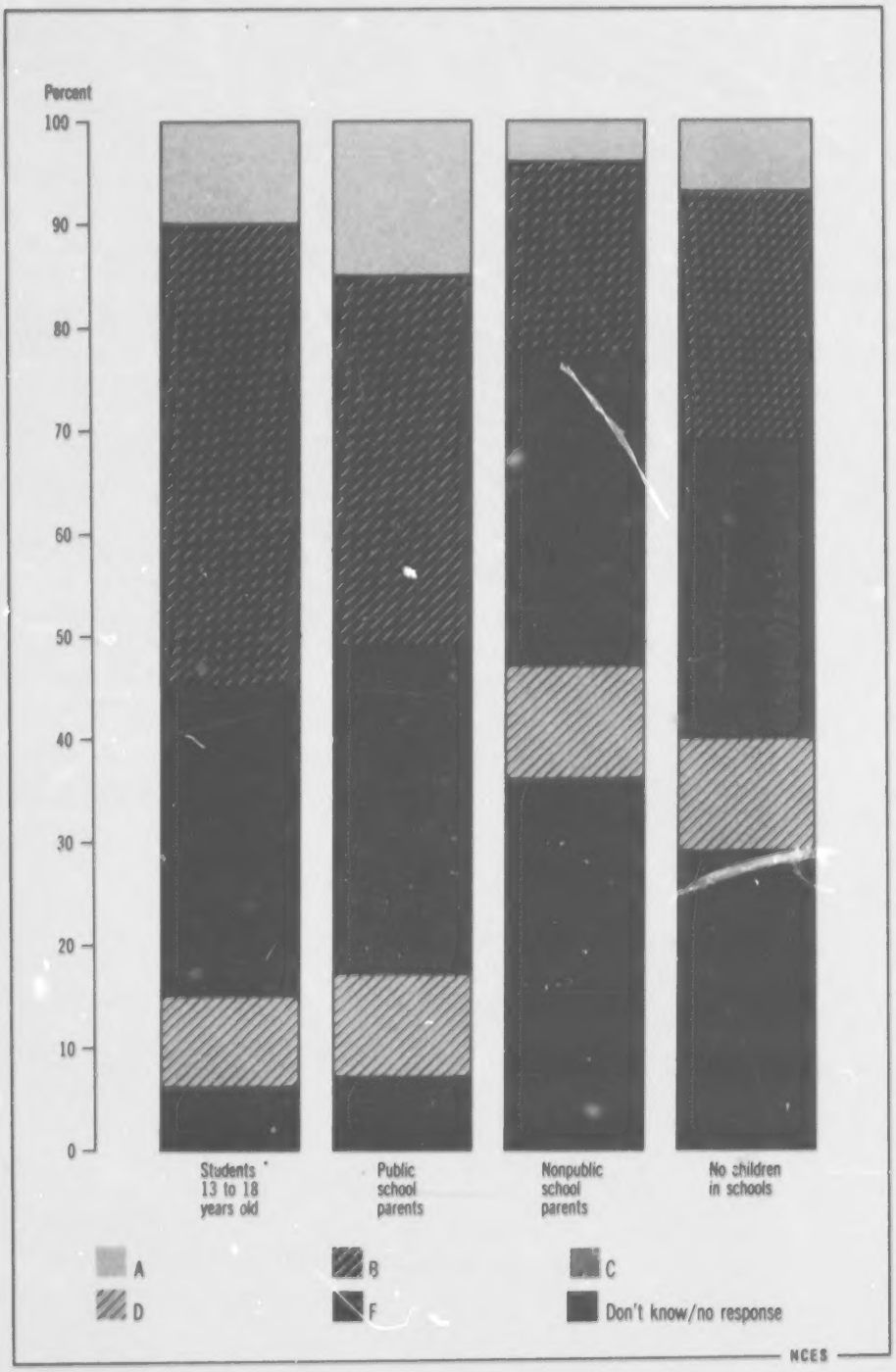


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Table 2.12
Opinion of 13- to 18-year-olds on the difficulty of school and homework at the elementary and secondary levels, by academic standing of student: 1978

"In general, do you think elementary school children in the public schools here are made to work too hard in school and on homework, or not hard enough?"

Responses	Total	Academic standing: Above average	Academic standing: Below average/ don't know standing
	Percentage distribution		
Total	100.0	100.0	100.0
Too hard	10.2	7.7	13.0
About right amount	29.2	27.2	31.5
Not hard enough	57.5	62.5	51.8
Don't know	3.1	2.6	3.7

"What about students in public high schools here—in general, are they required to work too hard or not hard enough?"

Responses	Total	Academic standing: Above average	Academic standing: Below average/ don't know standing
	Percentage distribution		
Total	100.0	100.0	100.0
Too hard	21.5	19.0	24.3
About right amount	30.4	27.7	33.5
Not hard enough	44.6	49.9	38.6
Don't know	3.5	3.4	3.6

SOURCE: The Gallup Poll and the Charles F. Kettering Foundation, *The Attitudes of America's Youth Toward the Public Schools*, 1978.

Chart 2.12
Difficulty of School and Homework: Student Opinion

A large proportion of teenagers, both above and below average in academic standing, view elementary and secondary school work as being "not hard enough".

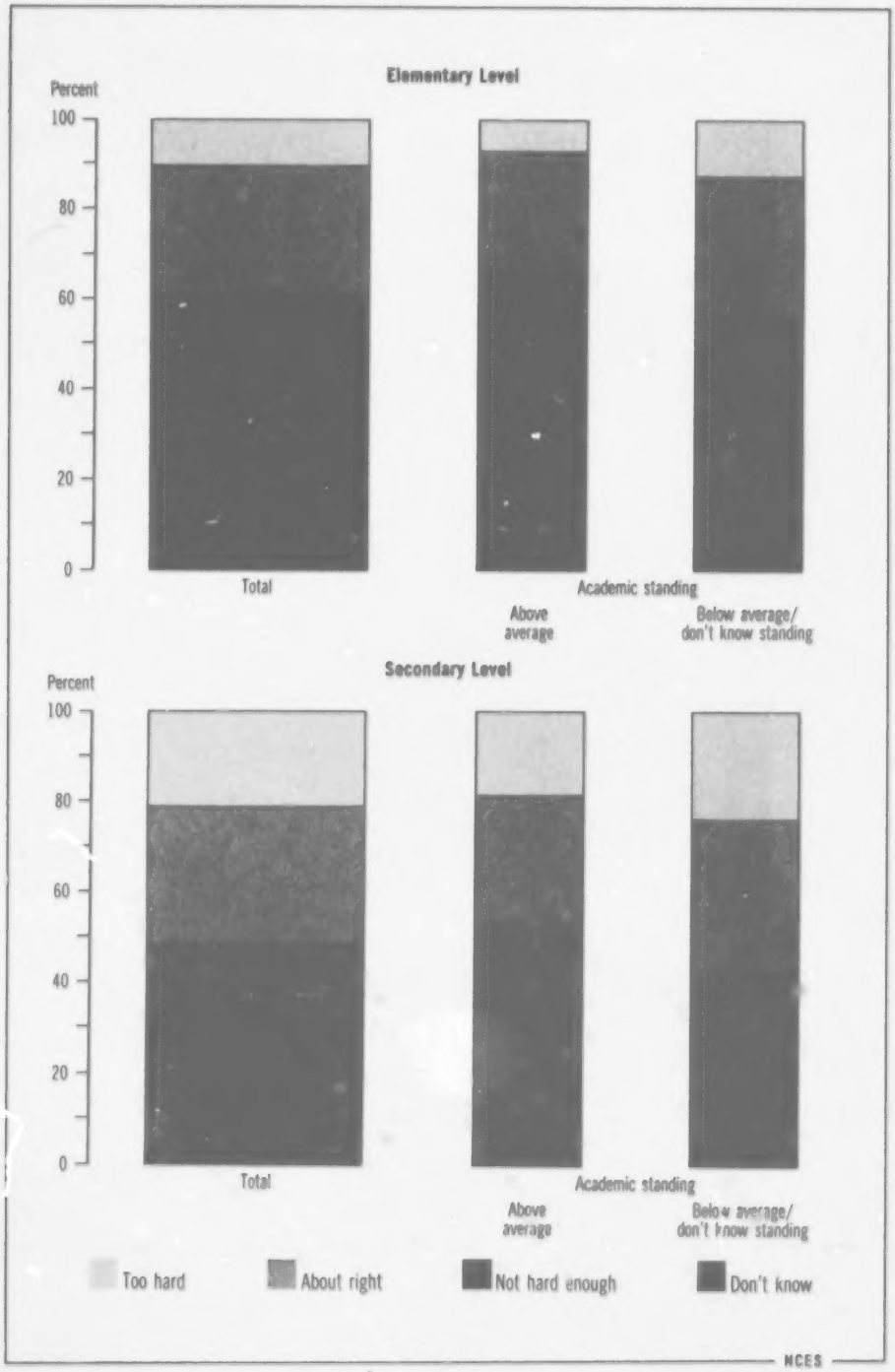

Table 2.13
Principals' report of the extent of changes in secondary schools in the past 5 years: 1977

Item	Percent reporting		
	Increased	Stayed about the same	Decreased
Extent of joint planning among teachers	51.9	44.5	3.6
Extent of interdependence among departments	26.7	69.9	3.5
Number of persons involved in school decision-making	61.9	36.0	2.1
Number of required courses	35.3	58.3	6.5
Student alternatives for meeting requirements	64.1	28.5	7.5
Emphasis upon basic reading, writing, and math skills	77.7	21.3	.9
Student academic achievement (standardized test scores)	24.0	64.2	11.8
Range of alternative grading practices	13.8	83.6	2.6
Number of student activities	56.1	39.6	4.3
Number of staff, in general	39.1	42.4	18.5
Number of specialists (e.g., psychologists, resource teachers, etc.)	52.8	39.7	7.5
Use of school facilities for community-related activities	59.0	39.1	1.9
Educational programs for new clientele (e.g., adults)	35.7	59.8	4.4

SOURCE: U.S. Department of Health, Education, and Welfare, National Institute of Education, *High School '77*, 1978.

Chart 2.13
Extent of Changes in Secondary Schools

Secondary school principals report that the greatest change in schools in the past 5 years has been an increased emphasis upon basic reading, writing, and math skills.

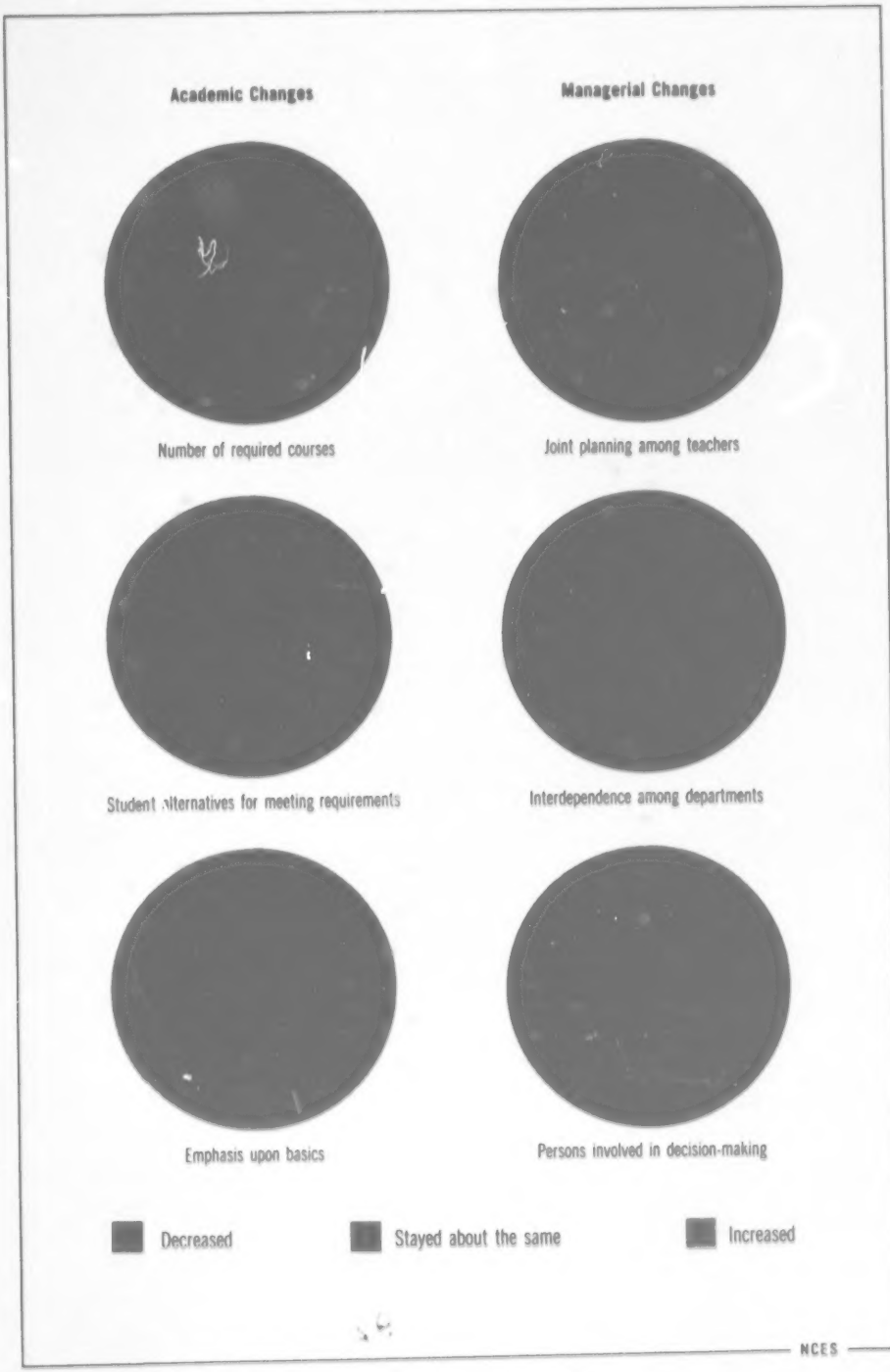

Table 2.14
Nontraditional courses and alternative credit programs in secondary schools: 1977

Nontraditional courses	Percent of schools offering	Alternative credit programs	Percent of schools offering
Sociology, anthropology, or psychology	77.1	Off campus work experience or training	64.5
Consumer education	60.4	Independent study projects	59.6
Family life education/sex education	36.2	Correspondence courses	53.9
Career exploration	27.9	College courses on a college campus	53.4
Environmental or ocean studies	26.7	Night or adult school	41.2
Ethnic studies	16.7	Credit by contract	22.6
Values clarification/moral education	6.9	College-level courses at high school	18.9
Women's studies	4.7	Credit by examination	17.3
		Community volunteer programs	14.2
		Travel	7.7
		Other	2.7

SOURCE: U.S. Department of Health, Education, and Welfare, National Institute of Education, *High School '77*, 1978.

Chart 2.14
Nontraditional Courses and Alternative Credit Programs in Secondary Schools

Secondary schools in the United States offer comprehensive programs which include non-traditional courses and alternative credit programs.

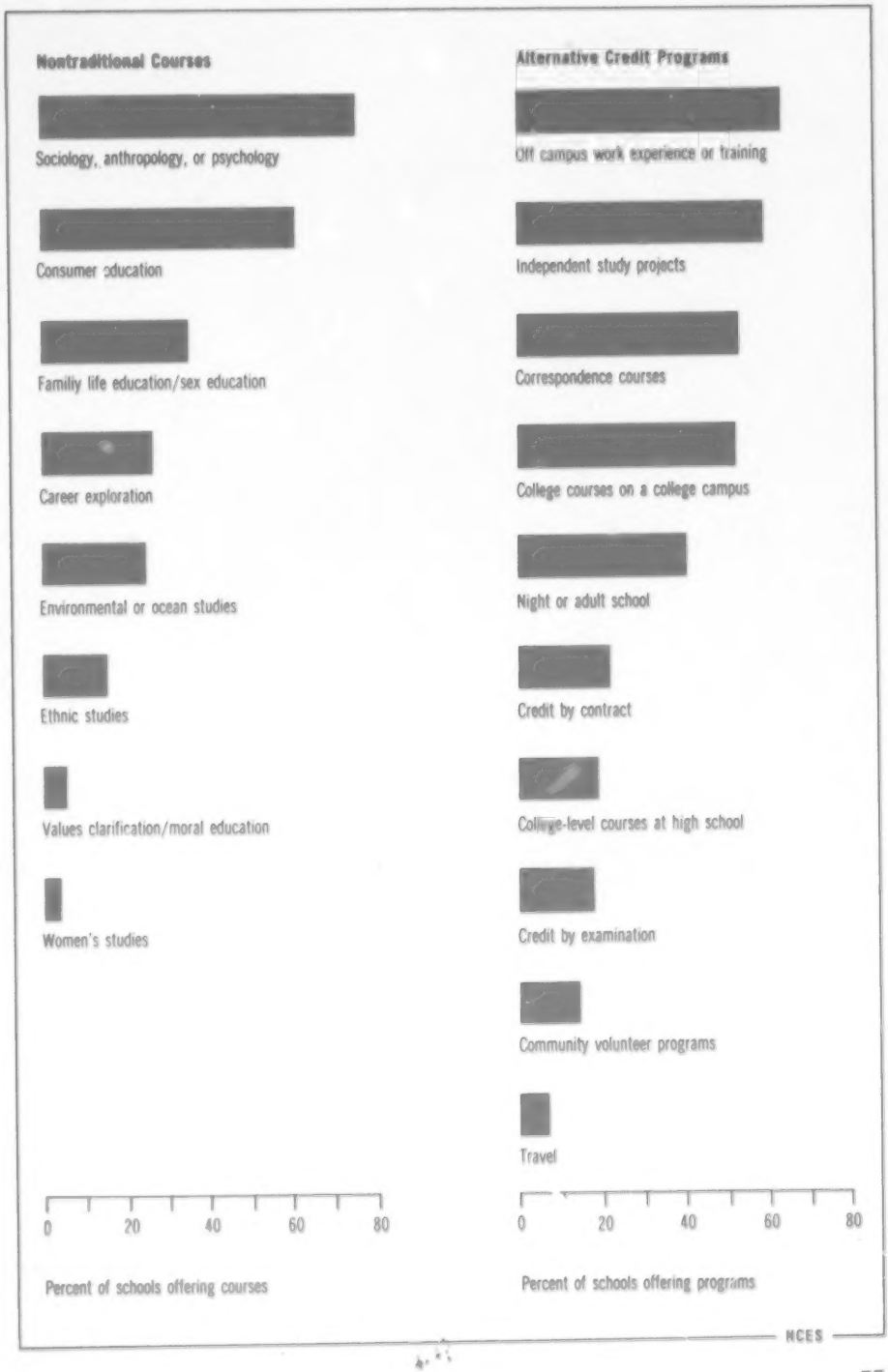

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Table 2.15
Number of public school systems, number of schools, and number of pupils enrolled, by size of system: Fall 1977

Enrollment size of system	School systems		Schools		Pupils enrolled	
	Number	Percent	Number	Percent	Number, in thousands	Percent
Total.....	16,112	100.0	87,315	100.0	43,444	100.0
25,000 or more....	187	1.2	16,785	19.2	12,162	28.0
10,000 to 24,999...	530	3.3	12,525	14.3	7,686	17.7
5,000 to 9,999.....	1,104	6.9	13,635	15.6	7,704	17.7
2,500 to 4,999.....	2,067	12.8	14,651	16.8	7,223	16.6
1,000 to 2,499.....	3,463	21.5	14,047	16.1	5,670	13.1
600 to 999.....	1,864	11.6	4,897	5.6	1,465	3.4
300 to 599.....	2,323	14.4	4,975	5.7	1,019	2.3
1 to 299.....	4,296	26.7	5,800	6.6	516	1.2
None[1].....	278	1.7	0	.0	0	.0

[1] Systems not operating schools.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Digest of Education Statistics, 1979*, and unpublished tabulations.

Chart 2.15
School Systems, Schools, and Pupils by Enrollment Size of the System

More than one-quarter of the school systems in the United States contain 6.6 percent of the schools and enroll only 1.2 percent of the pupils. Conversely, more than one-quarter of the pupils are enrolled in 19.2 percent of the schools contained in only 1.2 percent of the school systems.

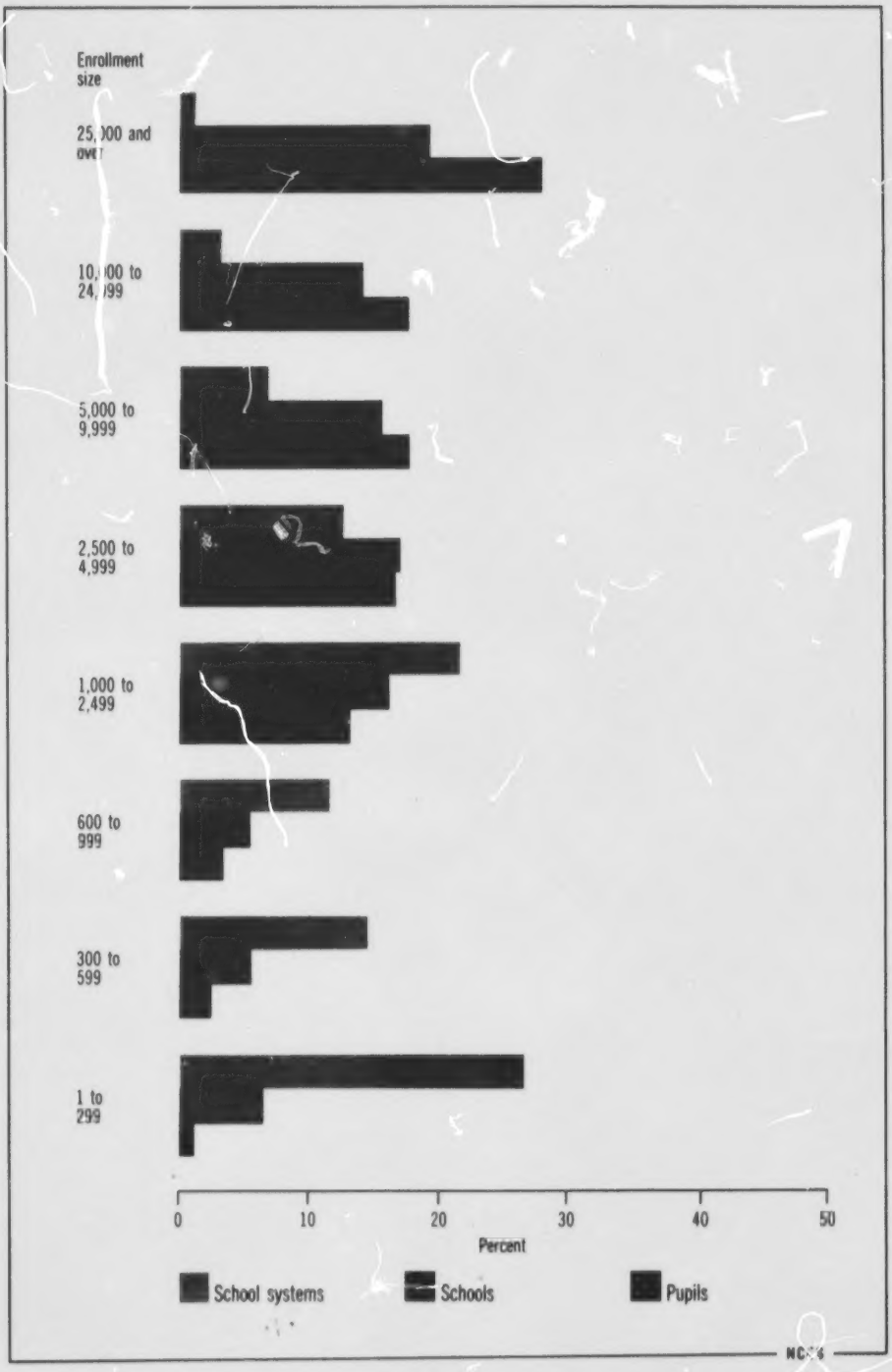

Table 2.16
Classroom teachers and pupil-teacher ratios in regular elementary and secondary day schools, by control of school: Fall 1958 to 1986

Year	All school teachers			Public school teachers			Nonpublic school teachers [1]		
	K-12	Elementary	Secondary	K-12	Elementary	Secondary	K-12	Elementary	Secondary
				(In thousands)					
1958	1,475	931	544	1,306	815	491	169	116	53
1960	1,600	991	609	1,408	858	550	192	133	59
1962	1,708	1,021	686	1,508	886	621	200	135	65
1964	1,865	1,086	779	1,648	940	708	217	146	71
1966	2,012	1,153	859	1,789	1,006	783	223	147	76
1968	2,161	1,223	938	1,936	1,076	860	225	147	78
1970	2,288	1,281	1,007	2,055	1,128	927	233	153	80
1972	2,388	1,292	1,046	2,103	1,140	963	235	152	83
1974	2,404	1,302	1,084	2,165	1,167	998	239	153	86
1976	2,440	1,328	1,112	2,193	1,170	1,023	247	158	89
1978 [2]	2,446	1,336	1,110	2,196	1,176	1,020	250	160	90
				Projected [3]					
1980	2,390	1,327	1,033	2,104	1,160	944	256	167	89
1982	2,342	1,351	991	2,080	1,178	902	262	173	89
1984	2,371	1,393	978	2,103	1,214	889	268	179	89
1986	2,454	1,490	964	2,180	1,305	875	274	185	89

Year	Public school pupil-teacher ratios		Nonpublic school pupil-teacher ratios	
	Elementary	Secondary	Elementary	Secondary
1958	28.7	21.7	38.7	18.2
1960	28.4	21.7	36.0	18.3
1962	28.5	21.7	36.3	18.5
1964	27.9	21.5	34.3	18.3
1966	26.9	20.3	32.3	18.1
1968	25.4	20.4	29.8	17.3
1970	24.4	19.8	26.5	16.4
1972	24.0	19.1	24.5	15.7
1974	22.6	18.7	23.5	15.9
1976	21.7	18.5	22.8	15.7
1978 [2]	20.9	18.1	22.5	15.6
	Projected [3]			
1980	20.7	18.1	21.5	15.7
1982	20.1	17.9	20.8	15.7
1984	19.6	17.7	20.1	15.7
1986	19.1	17.5	19.5	15.7

[1] Instructional staff and classroom teachers are not reported separately. All data estimated except for secondary in 1960 and elementary and secondary in 1968 and 1970.
[2] Estimated.
[3] Projections are based on data through 1976.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1986-87*, 1978, and unpublished tabulations.

Chart 2.16
Number of Teachers and Pupil-Teacher Ratios in Elementary and Secondary Schools

The number of public school classroom teachers is expected to increase at the elementary school level by 1986 and to decrease at the secondary level, based on enrollment and pupil-teacher ratio projections.

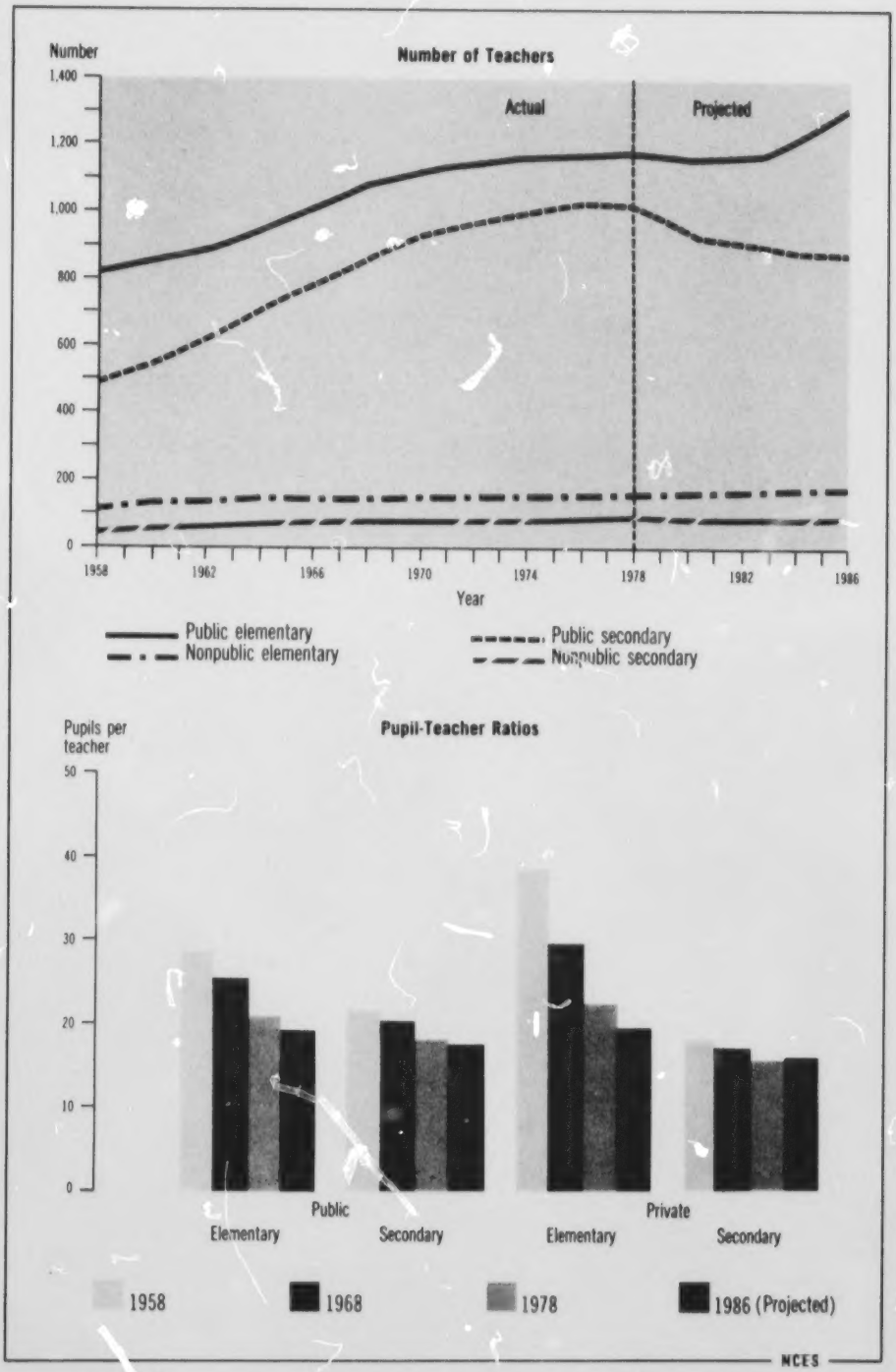

Table 2.17
Teaching experience and professional preparation of the American public school teacher: 1961 to 1976

Item	School year ending			
	1961	1966	1971	1976
	Percent			
Experience				
1–2 years	14.3	18.4	16.8	11.3
3–9 years	32.6	36.1	39.6	44.9
10–19 years	25.5	24.0	25.3	29.8
20 or more years	27.6	21.4	18.3	14.1
Highest degree held				
Less than a bachelor's	14.6	7.0	2.9	.9
Bachelor's	61.9	69.6	69.6	61.6
Master's or six-year diploma	23.1	23.2	27.1	37.1
Doctor's	.4	.1	.4	.4

SOURCE: National Education Association, *Status of the American Public School Teacher, 1975–76* Copyright © 1977 by the National Education Association, all rights reserved.

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Chart 2.17
Experience and Preparation of Public School Teachers

Since 1961, the percent of beginning teachers and the percent of very experienced teachers has declined. The number of teachers with master's degrees has increased in the past 15 years, while nondegree teachers will soon all but disappear from the education scene.

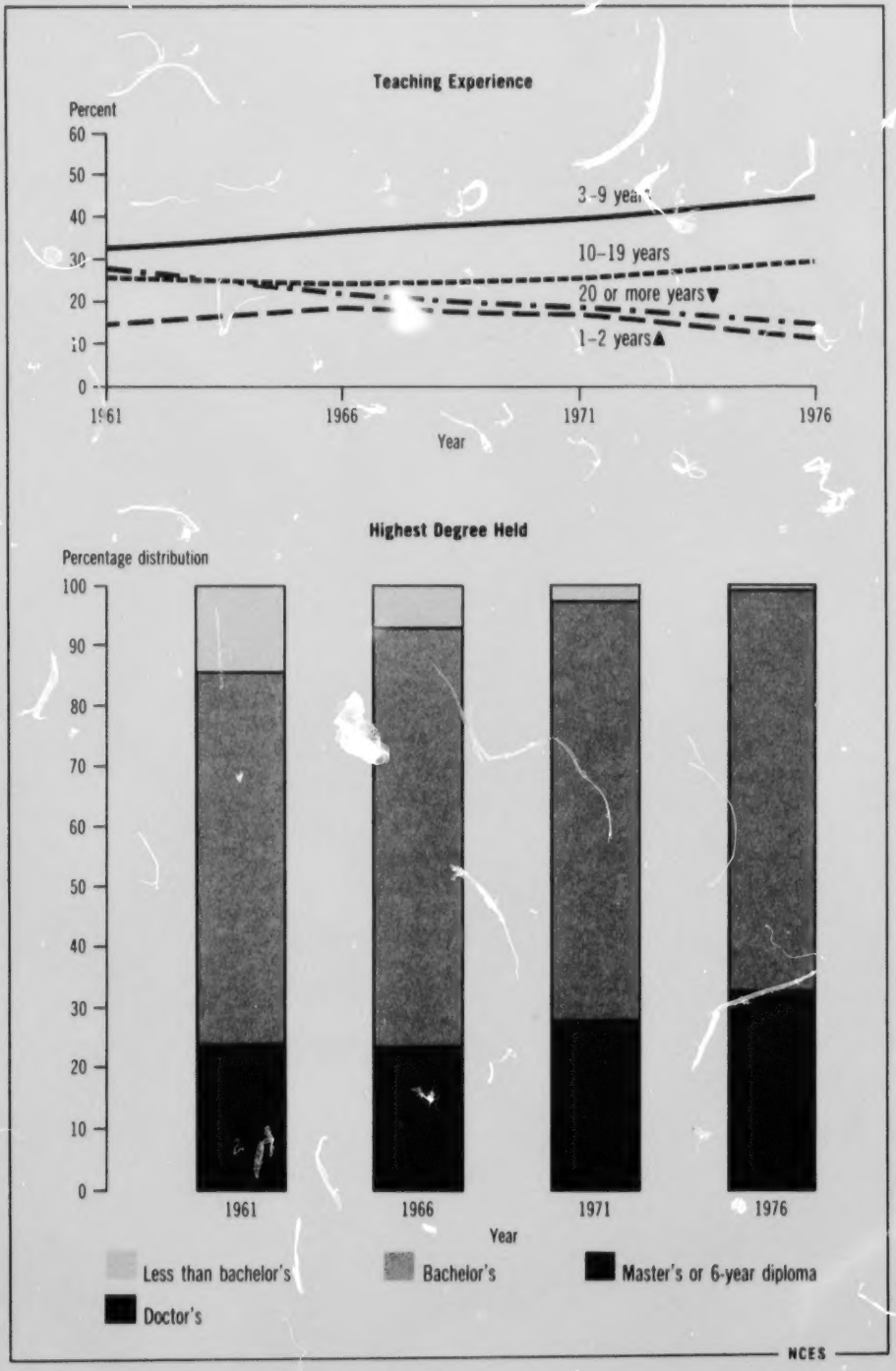

Table 2.18
Median hours, class periods and days in the teaching assignment by school level: 1976

Characteristic	Level	
	Elementary	Secondary
Hours		
Hours in the required work week	36.25	36.65
Hours per week devoted to noncompensated teaching-related activities	7.00	8.00
Total hours per week devoted to all teaching duties	43.00	46.00
Class periods [1]		
Class periods taught per week	30	25
Unassigned preparation periods per week	2	5
Days		
Teaching days in the regular school year	180	180
Contact days other than teaching in the regular school year	5	5

[1] Asked of those teaching in secondary grades or departmentalized elementary grades (includes approximately 20 percent of elementary school teachers). Excludes study halls and homeroom periods.

SOURCE: National Education Association, *Status of The American Public School Teacher, 1975–76*, Copyright © 1977 by the National Education Association, all rights reserved.

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Chart 2.18
Teaching Assignment in Elementary and Secondary Schools

The median number of hours per week devoted to all teaching duties exceeds 40 hours per week for both elementary and secondary school teachers. Secondary school teachers paid for a median of 185 days per year actually work a median of 207 days based on an 8 hour day.

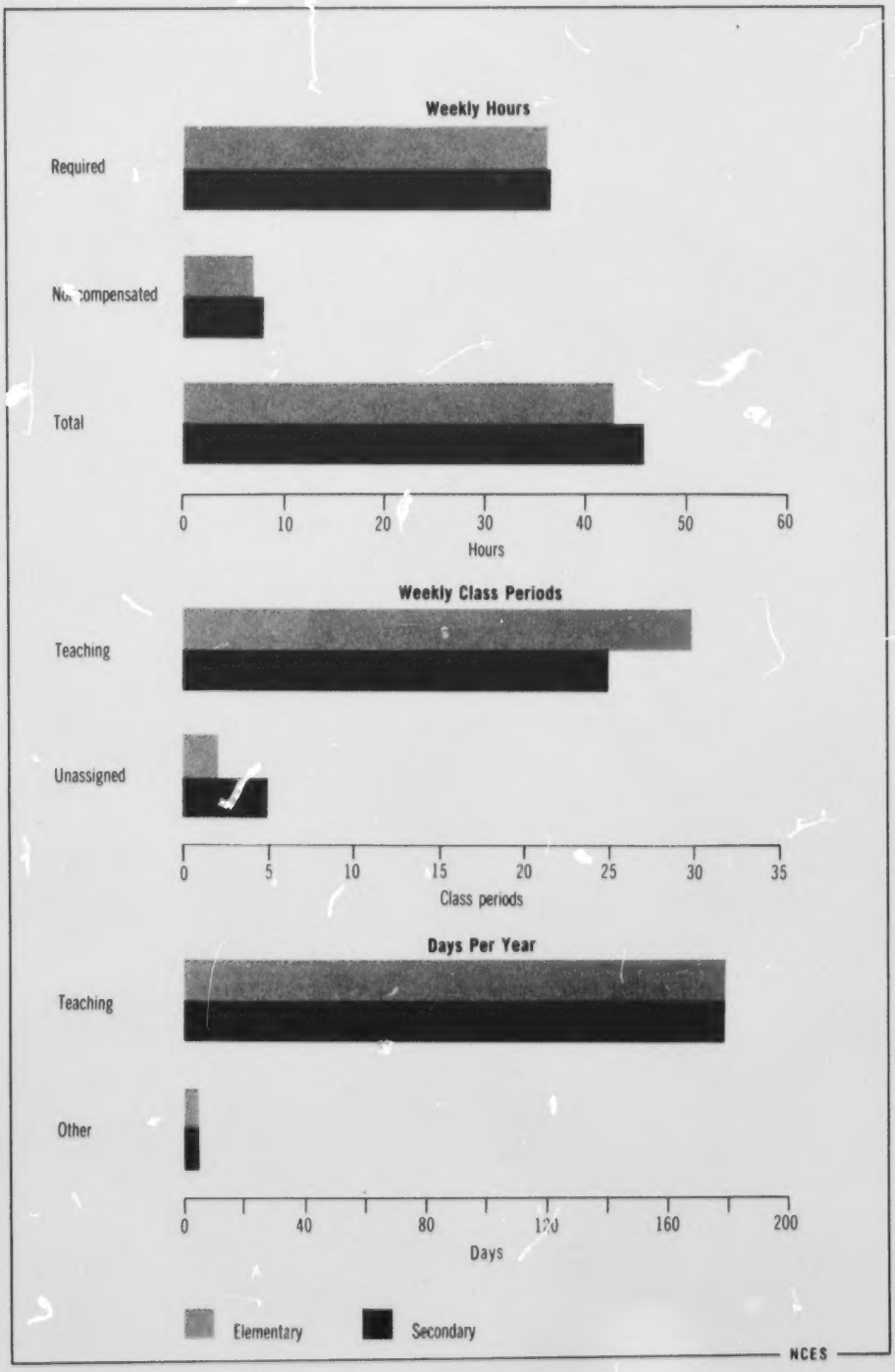

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Table 2.19
Occupational distribution and average annual salaries of 1976–77 bachelor's degree recipients working full-time: February 1978

Occupation	Full-time workers	Average annual salary
Total	634,200	$11,700
Elementary and secondary school teachers	93,800	9,200 [1]
Accountants	45,700	13,000
Computer specialists	14,000	14,500
Engineers	34,700	16,100
Registered nurses	29,100	12,600
Health technicians	22,600	10,400
Social and recreational workers	17,700	8,900
Engineering and science technicians	17,500	10,000
Other professionals	76,400	11,200
Managers and administrators	84,200	12,000
Sales workers	46,200	12,900
Clerical workers and kindred	78,600	9,400
Craftspersons and kindred	22,500	11,800
Operatives	11,200	12,600
Laborers and farm workers	11,000	11,000
Service workers	27,200	11,200

[1] Most teachers work 9- to 10-month contracts. Their average salary when adjusted for a 12-month period is $11,500.

NOTE: Detail may not add to total because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *1978 Survey of 1976-77 College Graduates*, preliminary data.

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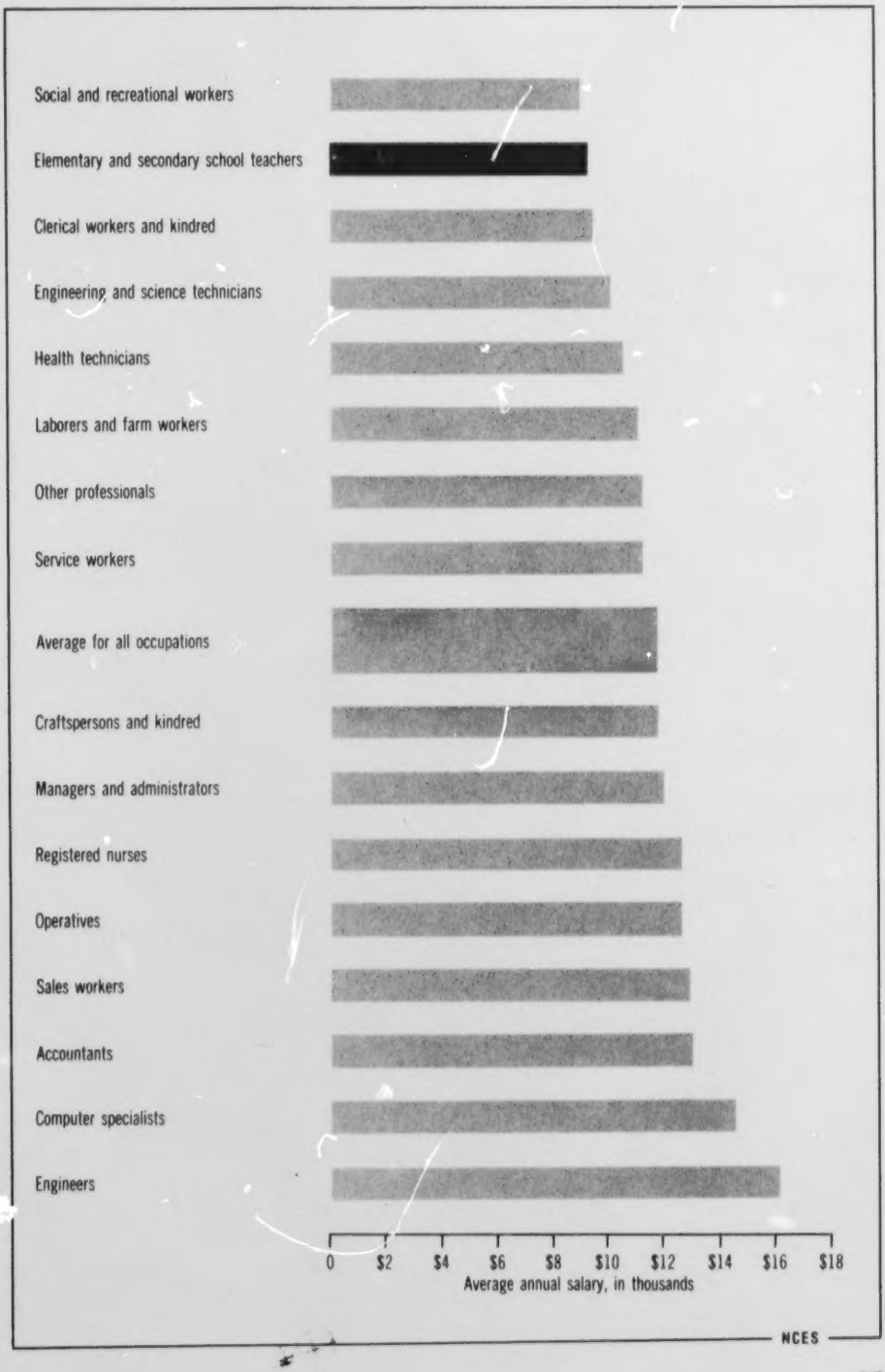
Chart 2.19
Salary Comparisons of Teachers and Other Workers

Salaries for beginning teachers were lower than those in all other occupations with the exception of social and recreational workers. Even when adjusted for a 12-month period, teachers' salaries were lower than the overall average.



Chapter 3
Postsecondary Education

American postsecondary education has grown increasingly complex and diverse, reflecting the growth of American society. As jobs have required more skills, as responsible citizenship has required greater amounts of complex information, and as consumer options have required increased knowledge, society and the individuals within it have needed to extend and expand formal education beyond the compulsory school age. To meet this demand, postsecondary education has evolved into a multifaceted enterprise. Vocational schools allow students to explore career opportunities and train for highly skilled jobs. Adult education courses in high schools and community colleges offer students a means of continuing their learning experiences. From small private liberal arts colleges to large public universities, higher education offers a wide range of courses, programs, and degree options.

Characteristics of segments of the postsecondary education enterprise are described in this chapter. Occupational education, serving as a bridge between secondary schooling and employment in the labor market, is addressed with focus on its development and place in the education system. Characteristics of the institutions offering occupational programs and the students participating in them are also addressed. In examining higher education, comparisons and contrasts are made among types of institutions, with emphasis on degrees of access and choice available. Trends in higher education participation, staffing, and financing are explored in the context of both the current state of the system and the outlook for the future. Educational outcomes and the status of women and minorities in postsecondary education are discussed in later chapters.

Occupational and Adult Education

Occupational education has developed into an important component of the education system in response, in part, to the needs of students leaving high school without employment skills. More than one-quarter of the students enrolled in occupational programs in 1977 were under 20 years of age. More than 60 percent were under 25 (entry 3.1). Almost one-quarter of the students attending noncollegiate postsecondary schools had at least some college before enrolling in occupational programs (entry 3.2).

The other societal influence affecting the growth of occupational education is the labor market. In the past, as long as unskilled manpower was widely needed, new untrained entrants to the labor market could find jobs and learn skills during their working careers. As the work force became increasingly mobile, the practice of developing skills largely through experience became time consuming and costly, for workers and employers alike.

In response to the needs of students and the labor market, occupational education has become an integral part of the education system. This integration of occupational education with other more traditional segments of the system has developed with the aid of Federal support. Federal involvement was initiated in 1862 with the Morrill Act, also known as the Land Grant Colleges Act. This legislation introduced two new concepts: that liberal arts and practical studies could be combined in one institution for the same group of students and, more significantly for education as a whole, that the Federal Government would participate in the development of public education.

The Smith-Hughes Act of 1917 provided funds to be matched by the States for training in agriculture, trades and industries, and home economics, and for teacher education. The next major expansion of Federal support for occupational education came in 1946 with the George-Barden Act, which expanded Federal aid for training in distributive occupations. This legislation directed a major part of the funding to secondary schools, which led to controversy between proponents of secondary level vocational-technical programs and administrators of the burgeoning 2-year colleges.

The National Defense Education Act, enacted in 1958 in response to the launching of Sputnik by the Soviet Union, recognized the need for highly skilled technicians in occupations necessary for national defense and provided funds for such training. Enacted under conditions of mounting unemployment, the Manpower Development and Training Act of 1962 provided subsistence and vocational training for adults of working age. This was the first piece of legislation that did not limit funds to specific training areas.

The Vocational Education Act of 1963 had a profound effect on the nature and scope of postsecondary occupational education. Not only did it extend Federal aid to include technical institute and community college training below the baccalaureate degree level as well as move further from categorical limitations of earlier legislation, it also provided area school construction money to encourage 2-year colleges to participate in occupational education. The effect of this act is clearly seen by comparing the number of 2-year colleges established in the 1960's with the number established earlier. Of the 1,174 2-year institutions in existence today, 505 were established between 1960 and 1969. Amendments to this act in 1968 further shifted the pattern of funding from occupational categories to groups of people in need of training. It did so by providing funds for new entrants to the job market, those in need of skill upgrading or retraining, those with academic or socioeconomic disadvantages, and handicapped persons.

While most Federal support for occupational education has been directed to programs in public institutions, the overwhelming majority of students are enrolled in private, proprietary (profit-making) institutions. Private institutions outnumber public institutions by almost four to one, and the most numerous of these, cosmetology/barber schools, are all private (entry 3.3). Public and proprietary institutions are distinct in several ways. The essential difference is that proprietary schools depend on the marketplace for their income; public schools depend on the political process for theirs. This difference determines not only how each type of institution derives its income, but also how each allocates its resources and organizes its occupational programs. Hiring rates for graduates reflect market demand and have a substantial impact on the viability of proprietary schools. If graduates do not get jobs, the schools quickly lose their appeal. Proprietary institutions, recognizing that a student's foregone income is the largest single expense of training, offer year-round operations, short programs, and frequent class starts. These schools also emphasize job placement services.

The dependence of public institutions on the political process for income requires that they fulfill institutional and governmental regulations. They require more non-employment-related coursework, and training is generally longer with less frequent class starts. Consequently, although training costs in public institutions are only about one-fifth those in private institutions, the time required to complete a program in a private institutions averages about three-quarters that required in a public school. This may be one of the reasons the large majority of students choose private over public institutions (entry 3.4).

Another area of growing importance in the education enterprise is adult education. Participants, generally not interested in acquiring a license or a degree, enroll in courses to learn more about the world around them in such subjects as arts, sports, religion, politics, or community or societal developments. In 1978, almost one-third of adults claimed to have taken an adult education course at some point in their lives. It is interesting to note that those with children in school were more likely to have taken such a course than adults with no children in school (entry 3.5).

Also in 1978, 41 percent of adults surveyed claimed to be interested in taking an adult education course the following year. If this percentage were applied to the entire adult population, it would mean that over 60 million adults would overwhelm existing facilities for such instruction. However, this is not likely to occur since not enough schools offer the right programs at the right time and at the right cost. But it is clear that there is much room for expansion in the area of adult education. Some of this expansion has already begun. In chapter 2 it was shown that 36 percent of secondary schools report an increase in educational programs offered new clientele, such as adults.

Participation in Higher Education

In 1951, college enrollment dropped by 7.8 percent from the previous year. In 1976, enrollment dropped by 1.5 percent from 1975 levels. In the intervening quarter century, especially during the 1960's, higher education experienced rapid growth. Not only were the numbers of college-age youth increasing, but so were the rates of college participation. Colleges and universities were faced with the problem of educating this relatively sudden and large influx of students.

Although enrollments had risen by 2.6 percent in 1977 to a new high of 11,415,020, the growth rate of the college-age population had slowed and the college-going rate had stabilized (entry 3.6). Consequently, many institutions were already experiencing only slight enrollment increases, stable enrollments, or even declines. The problem facing higher education in the next quarter century could involve reductions in faculty and staff, contraction of financial obligations, and even the closing of institutions. Alternatively, the problem could become one of providing educational services to those segments of the population not traditionally served by higher education.

During the period of expansion, many changes were taking place. Among today's institutions, the number of private schools established before 1960 had always exceeded the number of public schools established. Between 1960 and 1969 more than twice as many institutions were established as in any other 10-year period. Of the 702 new institutions, 80 percent were public, reflecting the changing nature of the higher education industry (entry 3.7). Higher education was becoming increasingly a public utility.

Concurrent with this change in the control of institutions were enrollment changes. In 1967, private institutions' share of the student market was 30 percent. By 1977 their share had decreased to 22 percent. However, a closer examination of the 1975 decrease and the slight 1977 increase in enrollments indicates that this trend may be leveling off. From 1967 to 1975 the yearly enrollment percentage increases at public institutions had been at least double those at private institutions, but in 1976, when the public sector was experiencing a decline, private school enrollment actually increased. In 1977, the percentage increase for private schools was almost double that for public schools.

Changes also occurred in the types of institutions being established. Seventy-one percent of the schools established between 1960 and 1977 were 2-year colleges. Enrollment in 2-year colleges grew by 169 percent from 1967 to 1977, compared to an enrollment growth of 65 percent for all institutions in that time period. While the share of total enrollment at universities was 38 percent in 1967, second to other 4-year institutions at 41 percent, the growth of 2-year colleges changed this balance. By 1977 the universities' share of enrollment was lowest at 25 percent, 2-year institutions' share second at 36 percent, and other 4-year institutions still led with a stable 40 percent (entry 3.8).

Institutions of higher education also adapted to the changing characteristics of their students. By 1977 women constituted almost 49 percent of the student body, up from 41 percent in 1970. This increase in female enrollment has been fairly consistent over each of the regions in the Nation, although it has occurred at a slightly faster rate in the Northeast and Southeast (entry 3.9). The overall enrollment decline of 1976 was the result of a decrease in male enrollment. From 1975 to 1976 male enrollment dropped by almost 6 percent. Even the slight enrollment increase from 1976 to 1977 could be attributed to an increase in female enrollment of almost 6 percent. In the same period, male enrollment dropped slightly.

The trend toward increased female participation is expected to continue. In 1976, for the first time, and again in 1977, the number of first-time female students enrolling in college exceeded the number of first-time male students. If this trend continues, the proportion of females enrolled in college will at least equal that of males within the next 4 years.

Minority enrollments also have increased. Black and Hispanic enrollment rates for the 18- to 34-year-old age group increased by 5 and 6 percent, respectively, between 1970 and 1977 while remaining fairly constant for whites (varying by less than 2 percent during that period). In 1977, 17 percent of whites, 16 percent of blacks, and 12 percent of Hispanics in the 18- to 34-year-old age group were enrolled in college (entry 3.10).

While these rates indicate that minority groups are underrepresented in colleges, an examination of college enrollment rates of high school graduates in each of these population subgroups suggests future increases. By 1975, black and Hispanic college enrollment rates, calculated as a percent of high school graduates in each of these groups, had exceeded that of whites. Unequal representation of these groups in institutions of higher education can thus be attributed in part to their unequal representation among high school graduates. In 1977, 84 percent of whites, 70 percent of blacks, and 56 percent of Hispanics in this age group had graduated from high school. This represents an increase of 4, 12, and 6 percent, respectively, over 1970 high school graduation rates.

If these trends continue, the representation of minority groups in institutions of higher education will soon approach their representation in the general population. A recent survey of public attitudes toward education supports this. It shows that minorities are more likely than whites to consider a college education to be "very important" in today's world. That this same attitude is held by groups at the lower income and educational attainment levels indicates that a college education is viewed as a vehicle for upward mobility (entry 3.11).

The proportion of freshmen who have delayed entry into college beyond the year of high school graduation has increased (entry 3.12). In 1970, almost two-thirds of all freshmen had entered college in the same year they graduated from high school. That proportion had dropped to slightly over half by 1977 when 21 percent of the students had delayed college entry by 1 to 3 years and 25 percent by 4 or more years. This change indicates a need for different kinds of services for these older students, many of whom are married, live in off-campus housing, and have part-time or full-time jobs.

Instructional Faculty in Higher Education

There were 389,033 full-time instructional salaried faculty in institutions of higher education for the academic year ending in 1978 (entry 3.13). Private institutions, with only 22 percent of enrollment, employed 27 percent of the faculty. There are also differences in enrollment and faculty shares by the type of institution being examined. Universities had the smallest share of enrollment, 25 percent, and a faculty share of 31 percent. In contrast, enrollment in 2-year colleges was 36 percent of all college students, but the share of full-time instructional faculty was only 22 percent of the total. One reason for the lower percentage of full-time instructional faculty in 2-year colleges is that these schools tend to hire more part-time faculty than universities or other 4-year colleges.

The academic rank of faculty members and the representation of women are two related differences among the three types of institutions. Only at the lower academic ranks, below assistant professor, was the proportion of women close to that of men. Universities and other 4-year colleges had more faculty at or above this rank and their proportions of female faculty members were lower than at 2-year colleges. Proportions of female faculty members at universities and other 4-year institutions were 18 and 26 percent respectively, while at 2-year colleges the proportion was 35 percent. Part of this difference is due to disparities, discussed in a later chapter, in the proportion of women earning postbaccalaureate degrees qualifying them for positions in institutions of higher education. Because of projected enrollment declines in the next decade, fewer new faculty are expected to be hired. Consequently, even though the number of women qualified for faculty positions is increasing, other factors—enrollment and the effect of tenure—are expected to slow the growth of their representation.

An examination of the recent hiring patterns of new full-time faculty in 2- and 4-year colleges reveals some of the effects the projected enrollment declines already have had on the composition of faculty. In 1977, approximately 9,900 new faculty were hired in 2-year colleges and 4,700 in 4-year colleges (entry 3.14). These new hires were concentrated in 4 fields of study: arts and humanities, social sciences, education, and business and management. At 4-year colleges, more of the new faculty were employed by the private sector than the public, while the reverse was true of 2-year colleges. These hiring patterns reflect the enrollment trends discussed above.

An examination of the proportion of doctoral degree holders among these new faculty reveals some interesting surprises. With the supply of persons holding doctoral degrees now exceeding the demand, it might be supposed that colleges would seize the opportunity to increase the proportion of doctoral degree holders among their faculty by hiring them exclusively. But hiring patterns reveal that doctoral degree holders exceeded 50 percent of new hires in only half of the 10 fields surveyed for 4-year colleges and in none of the fields for 2-year colleges. Several factors contribute to these patterns. At 4-year institutions, the expected enrollment declines are causing concern over hiring permanent faculty members, and many institutions prefer to hire temporary faculty with master's degrees to teach introductory courses in order to avoid commitments that may later prove burdensome. Also many institutions are facing budget constraints requiring such economy measures as hiring faculty at the master's level. An additional factor is that many institutions, in seeking to achieve a more balanced faculty, are choosing to hire women and minorities, still in small supply at the doctoral degree level.

While the impact of declining enrollment has not yet affected 2-year colleges, other factors contribute to the tendency to hire faculty below the doctoral level. The mission of community colleges is the education of undergraduates, not only those planning to go on to a 4-year college to obtain a bachelor's degree, but also those planning to complete a 2-year program and enter the labor force. These institutions tend to prefer teaching candidates at the master's level who bring with them teaching credentials or experience in the job market. There is less need for a large proportion of faculty with doctoral degrees in 2-year institutions than in those supporting research and graduate school programs.

Salaries of faculty at institutions of higher education also reflect differences by type and control of institution (entry 3.15). With the exception of universities, average salaries of faculty with 9-month contracts are slightly higher at public than at private institutions. At 2-year colleges, the differences are significant at every rank, most notably at the rank of professor. Salaries of professors in public 2-year colleges average $8,000 more than those in private 2-year institutions, a difference of 37 percent.

Higher Education Finance

The differences among institutions by type and control, extend to their financial characteristics as well. Examination of current expenditure patterns reveals some of these differences (entry 3.16). Two-year colleges, whose primary task is undergraduate education, spend a higher proportion of total current funds expenditures on student education than do universities and other 4-year colleges, many of which support research activities and institutionally controlled hospitals. Private universities spend a higher proportion on federally funded research and development centers and other independent operations.

Another insight into the fiscal character of institutions of higher education is provided by current funds revenues (entry 3.17). Government, at all levels, is a key contributor to public and private higher education. However, since 1968, revenues received from Federal sources have constituted a smaller proportion of total current funds revenues for colleges and universities, with exceptions of public 2-year and other 4-year institutions. State support increased at most levels during the period, but direct local aid was proportionately lower, except for small increases in the private sector. Revenue derived from private gifts, grants and contracts accounted for a smaller amount of the total during the period, while sales and services increased slightly.

In an attempt to meet rising costs, many institutions have increased tuition charges. Private institutions have been forced to raise tuition and fees as a method of responding to fiscal pressures despite the fact that doing so makes it harder for them to compete with lower rates offered by State schools. State universities and 2-year institutions also reported a slightly higher proportion of current funds revenues coming from tuition and fees. The difference between public and private tuition charges averaged more than $2,000 in 1977 (entry 3.18). Although the impact of this tuition gap is lessened by a variety of financial aid packages which allow recipients to choose either public or private colleges, it does emphasize the importance of tuition revenue to private institutions and their dependence on financial aid programs.

As student charges in institutions of higher education increased, public pressure for the extension of financial aid to middle-income families grew. Results from a 1978 survey show that, when offered a choice of college-aid plans, a plurality of respondents preferred one that would raise the income ceiling under which government aid was available to students over one that would provide direct government aid to colleges, even if it meant that tuition and fees could be held down (entry 3.19). Starting with the Education Amendments of 1972, the bulk of Federal attention and aid was directed from aid to institutions to aid to students. In late 1978, Congress amended Title IV of the Higher Education Act to extend the availability of assistance to middle-income students.

Inflation in the general economy is measured by the Consumer Price Index (CPI), which calculates the increase in the prices of goods and services purchased by the consumer. However, colleges and universities buy different kinds of goods and services, such as staff salaries, books, and utilities. The Higher Education Price Index (HEPI) was specifically designed to measure the increases in the prices of these goods and services.

The costs of items purchased by colleges and universities—supplies, utilities, contracted services—have increased at a more rapid pace than those purchased by consumers. But it was in the area of payroll costs, comprising over three-fourths of total higher education costs, that colleges and universities were able to offset other cost increases. To illustrate, in 1978, faculty salaries increased only 5.3 percent compared to a 6.8 percent increase in the CPI. Throughout the period, the slopes of the HEPI and CPI are quite similar with the HEPI consistently higher than the CPI reflecting the higher costs affecting this sector (entry 3.20).

Between 1971 and 1978 the enrollment index is very similar to the HEPI and the CPI, while the current dollar expenditures index was higher than both the inflation and the enrollment indices. However, this apparent growth in current operations is negated by the combined effects of inflation and higher enrollments. Constant dollar expenditures per student dropped during this period, and did not return to 1967 levels.

Higher inflation, stable or lower enrollments, and stable government allocations indicate a fiscal dilemma for many colleges and universities. One indicator that retrenchment may have begun is a reported drop in capital contract commitments. This could signal apprehension over growth prospects and general unwillingness to make long term financial commitments. If these trends continue into the next decade, institutions of higher education may be forced to curtail their programs. But there is deep concern that these financial hard times will not be shared equally throughout higher education. It is feared that private schools will be much more severely affected by future changes because of their lower levels of government support.

Concerns over uneven retrenchment are not unfounded. During the enrollment boom of the last two decades public schools expanded greatly. Many small public institutions expanded into major colleges and universities. This growth often resulted in program duplication with public and private institutions competing in the same student market. Large sums of public money were committed to this expansion not only for new construction, but for operating subsidies as well. These allowed States to offer higher education at a fraction of its actual cost while private institutions offered diversity and program selection at a higher price.

Access and choice as provided by public and private institutions became part of the foundation of American higher education; retrenchment threatens this diversity. Some relief may come from tuition equalization programs, already adopted by several States, aimed at offsetting the higher costs of private education. Innovations in management may also help schools adjust to the fiscal realities of the 1980's. New marketing approaches designed to attract substantial numbers of new kinds of students could produce sizeable enrollment increases. The upcoming decade will present serious challenges for the current financial structure of higher education, requiring concerted effort and adaptive institutional approaches.

Table 3.1
Number and percent of students enrolled in noncollegiate post secondary schools with occupational programs, by sex and age of student: Aggregate United States, 1977

Age	All students [1]		Female		Male	
	Number	Percent	Number	Percent	Number	Percent
Total	766,865	100.0	380,759	49.7	385,383	50.3
Under 20	199,865	26.1	117,796	15.4	82,003	10.7
20–24	277,166	36.1	137,495	17.9	139,522	18.2
25–29	119,837	15.6	44,959	5.9	74,965	9.8
30–34	34,864	8.5	27,825	3.6	37,039	4.8
35–49	77,152	10.1	39,612	5.2	37,456	4.9
50 years or older	17,655	2.3	8,183	1.1	9,472	1.2
Not reported	10,326	1.4	4,899	.6	5,016	.6

[1] Includes students not reporting sex.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, Survey of Students in Postsecondary Schools 1977, unpublished tabulations.

Chart 3.1
Age and Sex of Students in Occupational Programs

Most students in occupational programs are under 25 years of age. Female students outnumber males in the under 20 age group and in the 35-to-49 age group.

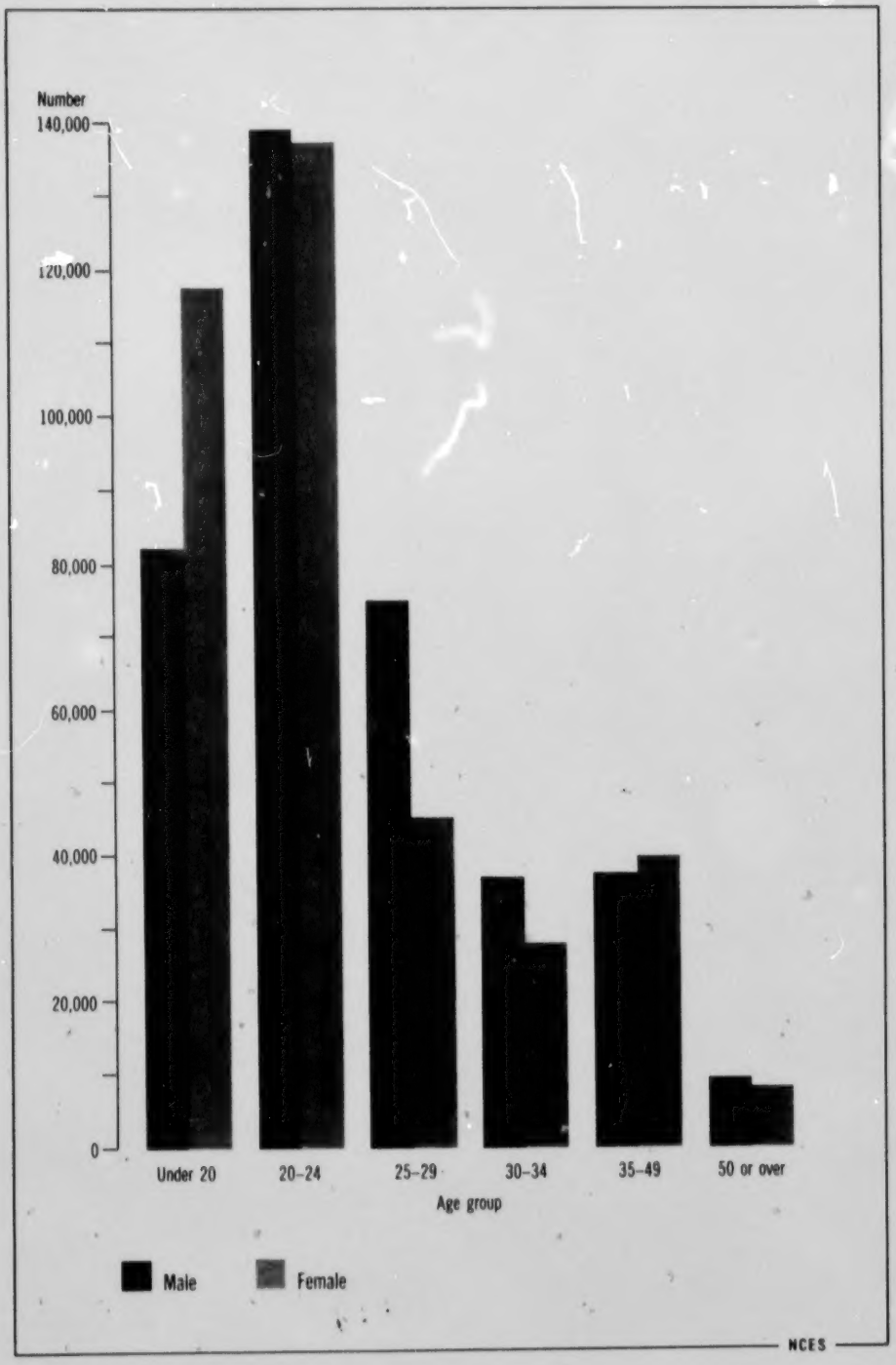


Table 3.2
Educational attainment of students in noncollegiate postsecondary schools with occupational programs: Aggregate United States, 1976

Educational Attainment	Number	Percent
Total	766,865	100.0
Eighth grade or less	6,575	.9
Some high school	55,969	7.3
Completed high school—regular graduate	419,147	54.7
Completed high school—G.E.D. test [1]	69,228	9.0
Completed other vocational school	40,556	5.3
Less than 4 years of college	126,862	16.5
Completed 2 years of college—AA degree [2]	18,903	2.5
Completed 4 years or more of college	26,227	3.4
Other	1,498	.2
Not reported	1,900	.3

[1] General Equivalency Development test. Used as an equivalency examination for the high school diplomas.
[2] Associate of Arts degree. Requires successful completion of at least 2 but less than 4 years of work beyond secondary school.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, Survey of Students in Postsecondary Schools, 1977, unpublished tabulations.

Chart 3.2
Educational Attainment of Students in Occupational Programs

More than 20 percent of students enrolled in occupational programs have had at least some prior college experience.

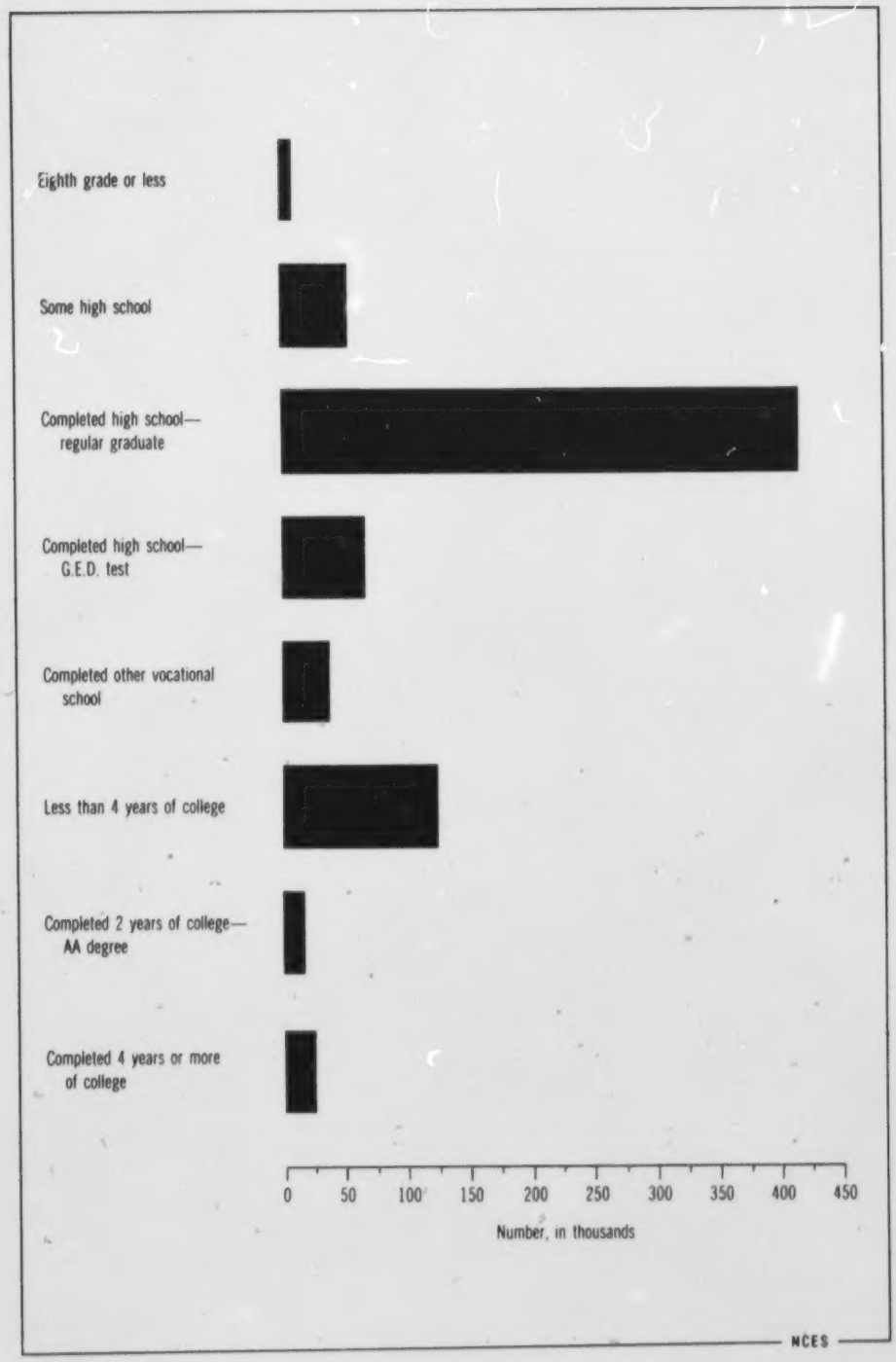


Table 3.3
Number of postsecondary schools with occupational programs, by control and type of school: Aggregate United States, 1978

Type of school	Total	Public	Private
All schools	9,337	1,955	7,382
Vocational/technical	618	506	112
Technical institute	235	122	113
Business/commercial	1,301	4	1,297
Cosmetology/barber	2,163	0	2,163
Flight school	1,064	5	1,059
Trade school	750	14	736
Arts/design	254	0	254
Hospital school	917	147	770
Allied health	359	114	245
Junior/community college	989	788	201
University/college	495	254	241
Other	192	1	191

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Directory of Postsecondary School with Occupational Programs, 1978*, 1979.

Chart 3.3
Noncollegiate Postsecondary Schools With Occupational Programs

Except for vocational/technical schools, technical institutes, and colleges which offer occupational programs, private postsecondary schools with occupational programs far outnumber public institutions.

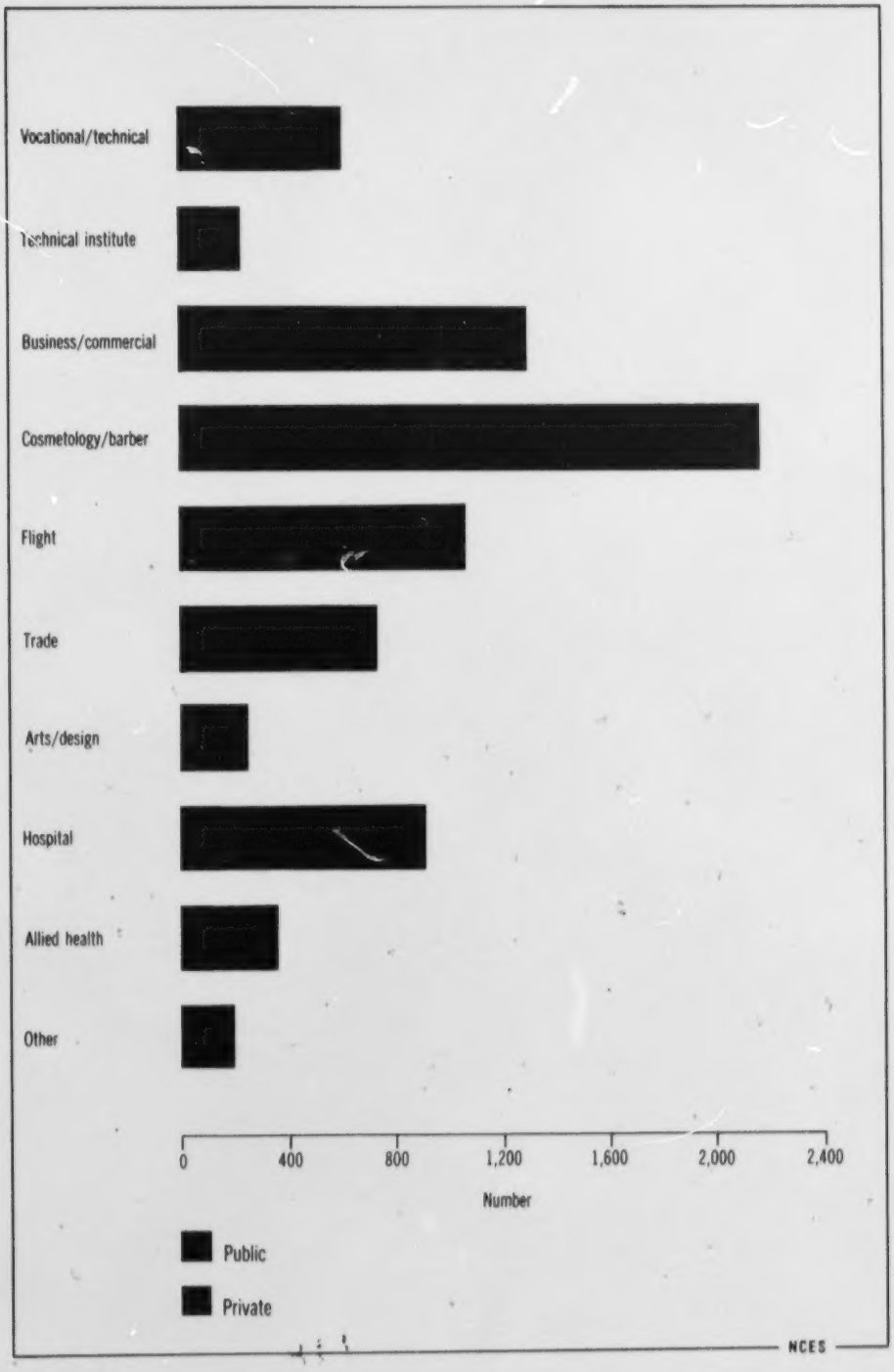


Table 3.4
Enrollment, mean charges, and mean length of programs in noncollegiate postsecondary schools with occupational programs, by program area: Aggregate United States, 1978

Program area	Enrollment		Mean charges		Mean length (Hours)	
	Public	Private	Public	Private	Public	Private
Total	350,388	819,940	$345	$1,616	1,182	922
Agri-business	4,220	1,738	326	2,514	1,115	888
Marketing/distribution	13,573	168,355	310	926	999	327
Health occupations	55,565	91,203	454	1,664	1,214	1,977
Home economics	6,406	1,182	344	1,149	803	481
Business/office	77,671	189,576	270	1,821	903	956
Technical	22,812	88,533	586	2,317	1,844	249
Trades and industry	170,141	279,353	315	1,155	1,214	1,026

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Enrollments and Programs in Noncollegiate Postsecondary Schools, 1978*, forthcoming.

Chart 3.4
Enrollment, Charges, and Length of Occupational Programs

Although student charges in private schools with occupational programs are almost 5 times higher than in public schools, enrollment in private schools is more than double that of public schools.

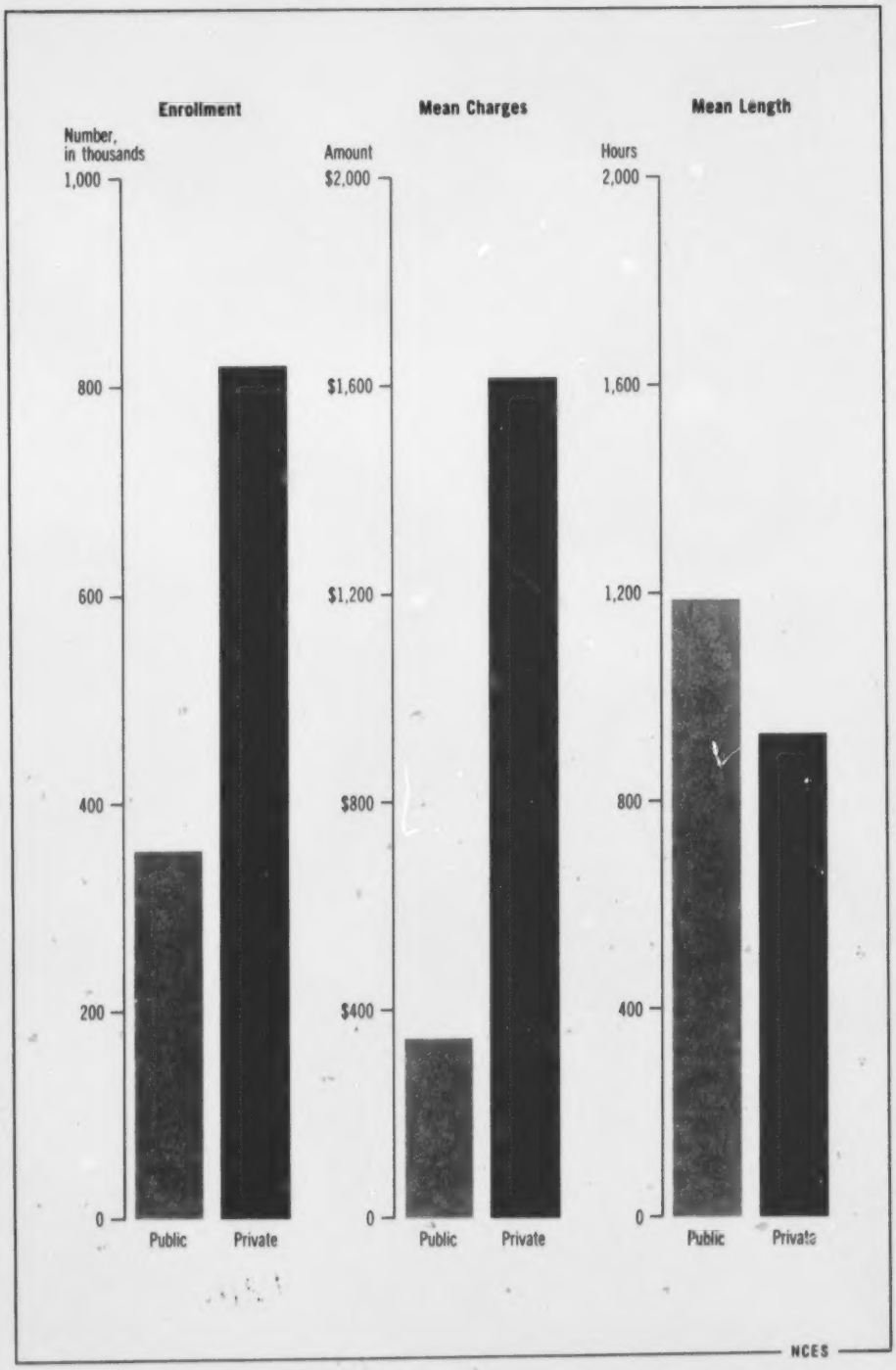


Table 3.5
Percent of adults who have taken an adult education course or were interested in taking a course the following year: 1978

Response	National total	No children in school	Public school parents	Nonpublic school parents
		Have taken a course		
Yes	31	29	34	41
No	68	70	65	59
Don't recall/no answer	1	1	1	0
		Were interested in taking a course the following year		
Yes	41	36	54	54
No	54	59	41	43
Don't know/no answer	5	5	5	3

SOURCE: Phi Delta Kappa, Inc., "The Tenth Annual Gallup Poll of the Public's Attitudes Toward the Public Schools", *Phi Delta Kappan*, September, 1978.

Chart 3.5
Adult Education Participation

More adults with children attending school claim to have taken an adult education course than adults without children in school. The same is true of adults who say they would be interested in taking a course the following year.

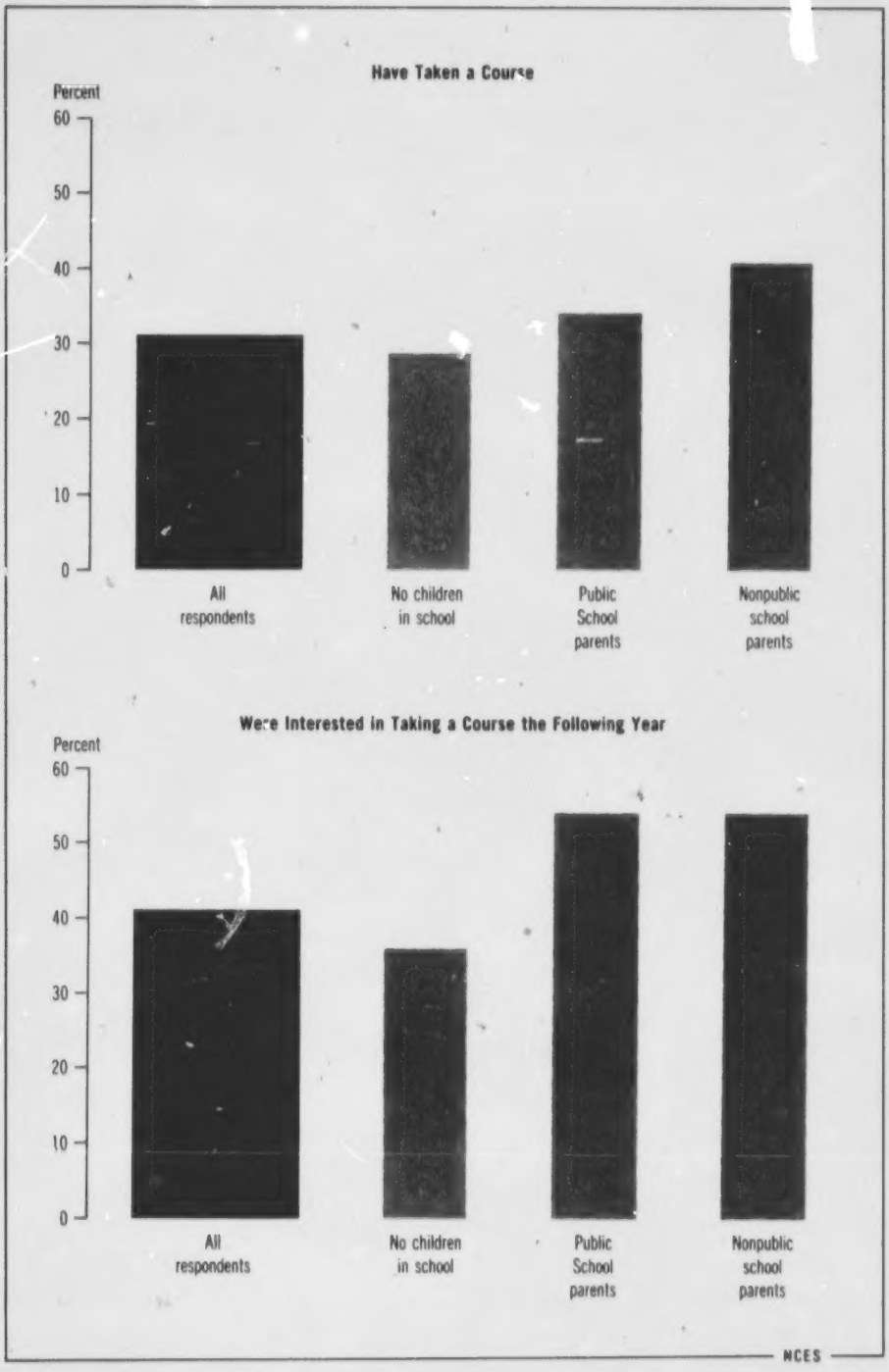


Table 3.6
Total enrollment in institutions of higher education, by control of institution: Aggregate United States, fall 1967 to fall 1977

Fall of year	All institutions	Public institutions	Private institutions
		(In thousands)	
1967...	6,964	4,850	2,113
1968...	7,572	5,469	2,102
1969...	8,066	5,940	2,127
1970...	8,649	6,476	2,173
1971...	9,025	6,855	2,170
1972...	9,298	7,123	2,175
1973...	9,694	7,478	2,216
1974...	10,322	8,050	2,272
1975...	11,291	8,896	2,395
1976...	11,121	8,713	2,409
1977...	11,415	8,908	2,507

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Fall Enrollment in Higher Education, 1977.*

Chart 3.6
Total Enrollment in Institutions of Higher Education

Enrollment in institutions of higher education dropped in 1976 for the first time since 1967, but rose again to an all time high in 1977.

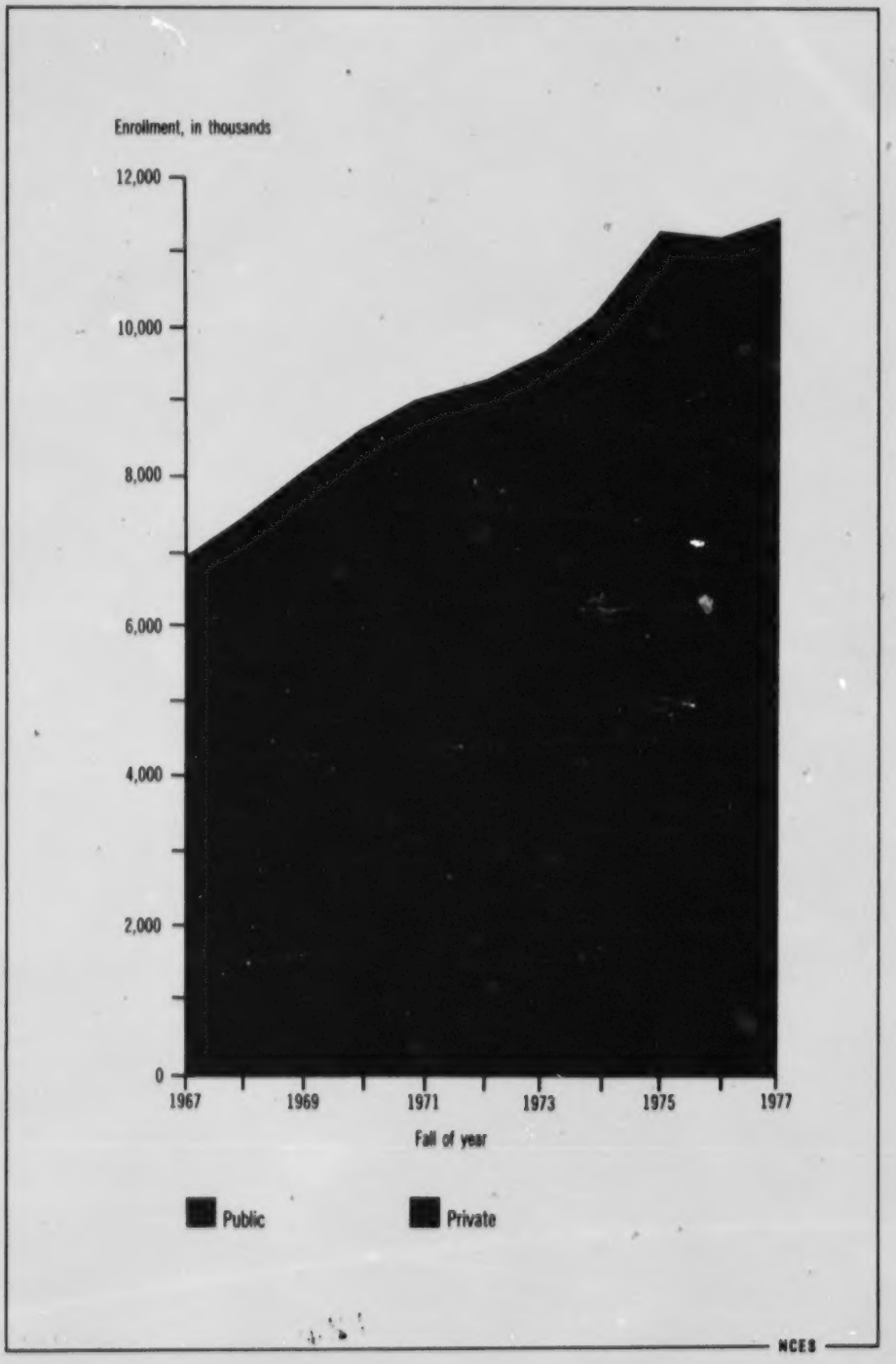


Table 3.7
Number of institutions of higher education and branches, by level, year established, and year degrees or other completion awards first granted: Aggregate United States, 1978

Institution dates	All institutions			Publicly controlled institutions			Privately controlled institutions		
	Total	4-year	2-year	Total	4-year	2-year	Total	4-year	2-year
Year institution established...	3,130	1,956	1,174	1,486	561	925	1,644	1,395	249
1859 or earlier	383	360	23	88	82	6	295	278	17
1860–1879	277	264	13	89	88	1	188	176	12
1880–1899	400	338	62	123	112	11	277	226	51
1900–1919	357	264	93	145	85	60	212	179	33
1920–1939	376	224	152	166	48	118	210	176	34
1940–1949	219	122	97	100	25	75	119	97	22
1950–1959	234	125	109	115	29	86	119	96	23
1960–1969	702	197	505	534	71	463	168	126	42
1970 or later	182	62	120	126	21	105	56	41	15
No response	0	0	0	0	0	0	0	0	0
Year degrees or other completion awards first granted	3,130	1,956	1,174	1,486	561	925	1,644	1,395	249
1859 or earlier	256	241	15	56	50	6	200	191	9
1860–1879	230	221	9	73	71	2	157	150	7
1880–1899	315	290	25	101	97	4	214	193	21
1900–1919	313	259	54	110	79	31	203	180	23
1920–1939	480	310	170	219	93	126	261	217	44
1940–1949	213	122	91	88	21	67	125	101	24
1950–1959	223	147	76	69	21	48	154	126	28
1960–1969	643	195	448	472	65	407	171	130	41
1970 or later	433	161	272	280	58	222	153	103	50
No response	24	10	14	18	6	12	6	4	1

SOURCE: U.S. Deparment of Health, Education, and Welfare, National Center for Education Statistics, *Education Directory, Colleges and Universities, 1977–78.*

Chart 3.7
Number of Institutions of Higher Education

Of the number of institutions of higher education in existence today, nearly twice as many were established in the decade 1960 to 1969 than in any other period. The majority of those established since 1960 are public 2-year institutions.

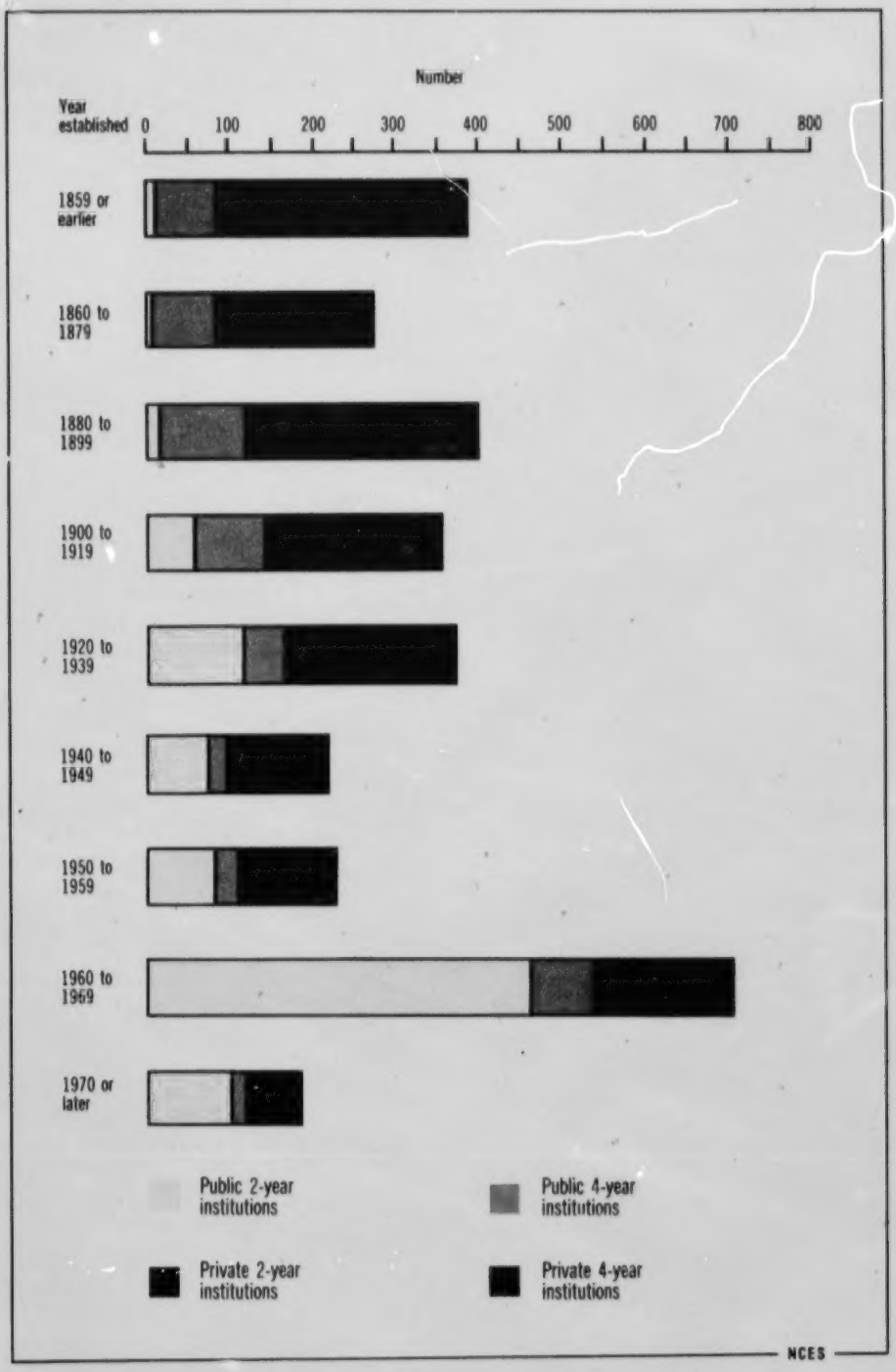


Table 3.8
Distribution of enrollment in institutions of higher education, by type and control of institution: Aggregate United States, fall 1967 and fall 1977

Control of institution	All institutions	Universities	Other 4-year institutions	2-year institutions
		(Numbers in thousands)		
		Fall 1967		
All institutions				
Number	6,964	2,619	2,827	1,518
Percent	100.0	37.6	40.6	21.8
Public				
Number	4,850	1,903	1,572	1,375
Percent	69.7	27.3	22.6	19.7
Private				
Number	2,113	716	1,254	143
Percent	30.3	10.3	18.0	2.1
		Fall 1977		
All institutions				
Number	11,415	2,817	4,519	4,079
Percent	100.0	24.7	39.6	35.7
Public				
Number	8,908	2,094	2,901	3,913
Percent	78.0	18.3	25.4	34.3
Private				
Number	2,507	723	1,618	166
Percent	22.0	6.3	14.2	1.5

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Opening Fall Enrollment in Higher Education 1967; Fall Enrollment in Higher Education 1977.*

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Chart 3.8
Distribution of Enrollment in Institutions of Higher Education

In the past decade, public institutions have increased their share of enrollment by more than 8 percent, with the largest growth occurring in public 2-year institutions which almost doubled their share of enrollment.

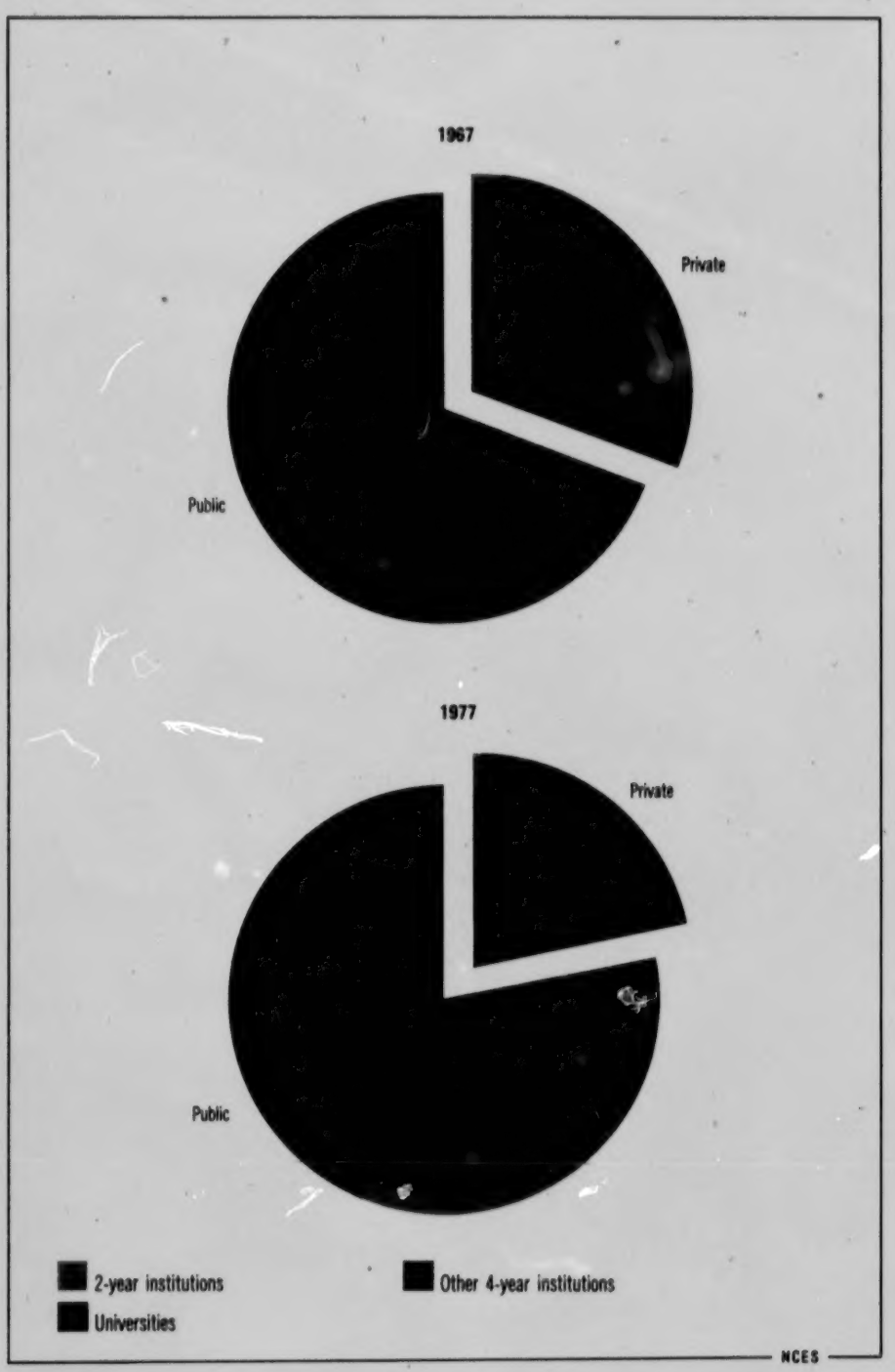

Table 3.9
Enrollment in institutions of higher education, by region and sex of student: Fall 1970 to fall 1977

Region	Fall of year							
	1970	1971	1972	1973	1974	1975	1976	1977
	(In thousands)							
Northeast, total	2,246	2,237	2,391	2,508	2,630	2,803	2,698	2,759
Male	1,322	1,285	1,341	1,373	1,414	1,499	1,397	1,395
Female	923	951	1,049	1,135	1,217	1,304	1,301	1,364
Southeast, total	1,403	1,375	1,577	1,654	1,795	2,016	1,996	2,065
Male	815	792	888	918	980	1,110	1,050	1,048
Female	587	583	689	736	815	906	946	1,017
Central, total	2,301	2,168	2,392	2,437	2,550	2,756	2,765	2,828
Male	1,351	1,261	1,368	1,370	1,405	1,516	1,467	1,461
Female	950	908	1,024	1,068	1,145	1,240	1,298	1,367
West, total	2,614	2,320	2,839	2,986	3,220	3,573	3,536	3,615
Male	1,538	1,362	1,625	1,694	1,795	1,987	1,880	1,867
Female	1,076	958	1,214	1,293	1,425	1,586	1,656	1,748

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 3.9
Enrollment in Institutions of Higher Education by Region

The numbers of males and females enrolled in higher education are approching equality somewhat faster in the Northeast and Southeast regions than in the West and Central regions.

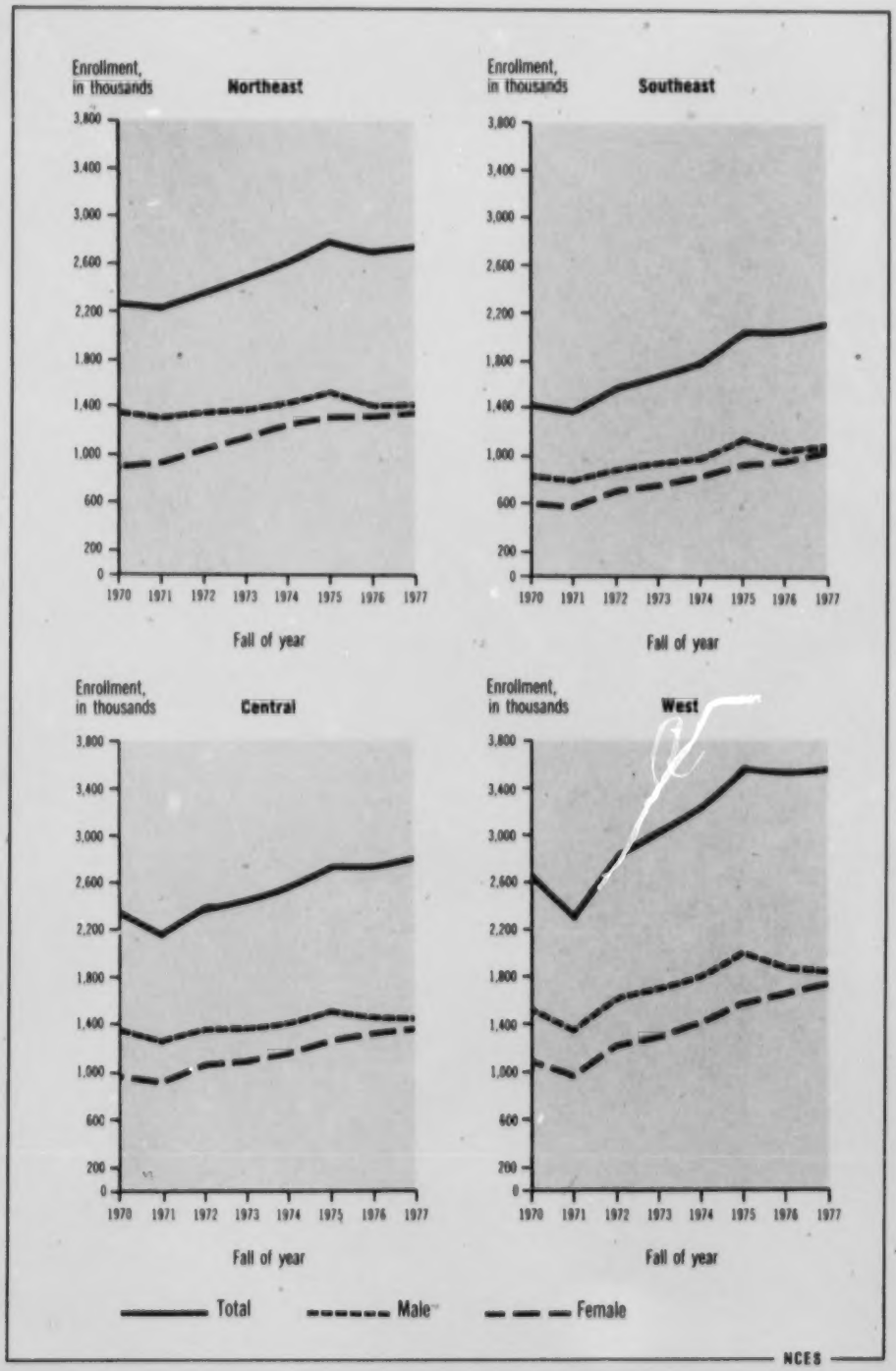

Table 3.10
College enrollment as a percent of the 18- to 34-year-old population, by racial/ethnic group: 1970 to 1977

Year	White	Black	Hispanic origin[1]
	Enrolled in college as a percent of the population subgroup		
1970	15.8	10.6	NA
1971	16.3	11.7	NA
1972	16.0	12.0	8.3
1973	15.2	10.6	10.3
1974	15.7	12.7	11.5
1975	16.8	14.3	12.7
1976	16.6	15.5	14.2
1977	16.6	15.6	11.8
	Enrolled in college as a percent of high school graduates in the population subgroup		
1970	19.9	16.5	NA
1971	20.5	19.0	NA
1972	19.9	18.5	16.9
1973	18.6	16.2	20.4
1974	19.0	18.7	21.9
1975	20.1	21.6	22.9
1976	20.0	22.3	22.8
1977	19.8	22.4	21.2
	High school graduates as a percent of the population subgroup		
1970	79.4	57.4	NA
1971	79.8	61.5	NA
1972	80.4	65.1	49.5
1973	81.8	65.9	50.5
1974	82.7	67.7	52.6
1975	83.4	66.1	55.3
1976	83.0	69.5	53.3
1977	83.9	69.8	55.5

NA: Not available.

[1] Categories are not discrete (e.g., a person may be classified in both white and Hispanic categories).

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Social and Economic Characteristics of Students*, P–20, and unpublished tabulations.

Chart 3.10
College Enrollment of the 18- to 34-Year-Old Population

Among high school graduates, college enrollment rates for both blacks and Hispanics exceeded those for whites by 1975, but high school graduation rates remain highest for whites.

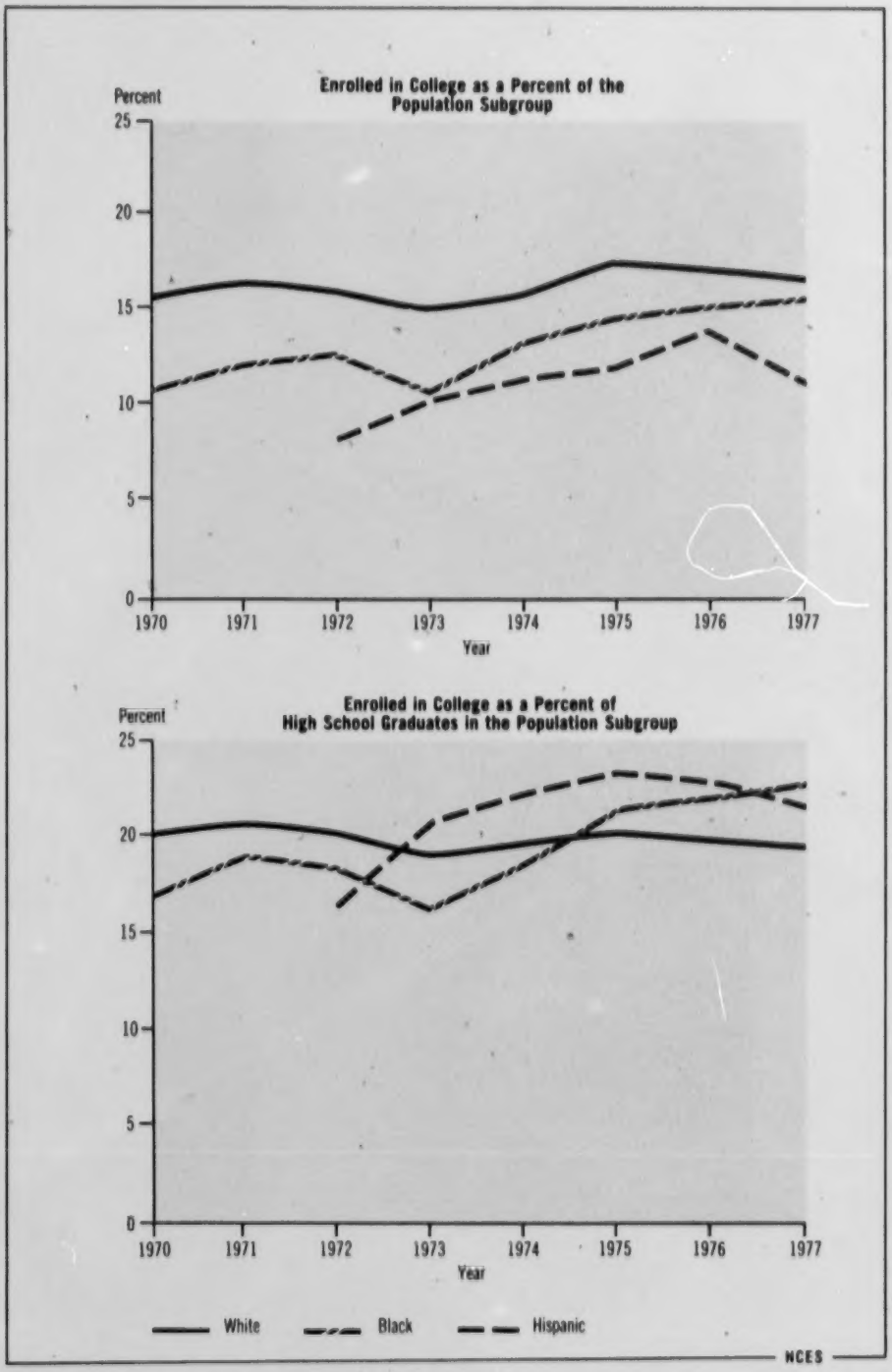

Table 3.11
Public opinion on the importance of a college education, by race, educational attainment, and income level of respondent: 1978

Characteristic	"How important is a college education today—very important, fairly important, or not too important?"				
	Total	Very important	Fairly important	Not too important	Don't know/ no response
	Percentage distribution				
All respondents	100	36	46	16	2
Race					
White	100	35	47	16	2
Other	100	46	32	18	4
Educational attainment					
Grade school	100	44	33	18	5
High school	100	34	46	19	1
College	100	35	52	11	2
Income level					
Under $7,000	100	45	39	13	3
$7,000 to $9,999	100	37	48	15	0
$10,000 to $14,999	100	33	40	26	1
$15,000 to $19,999	100	31	53	14	2
$20,000 and over	100	33	49	16	2

SOURCE: Phi Delta Kappa, Inc., "The Tenth Annual Gallup Poll of the Public Attitudes Towards the Public Schools", *Phi Delta Kappan*, September, 1978.

Chart 3.11
Importance of a College Education Today: Public Opinion

When asked about the importance of a college education today, respondents most often citing "very important" belong to socioeconomic groups that are underrepresented in today's college population.

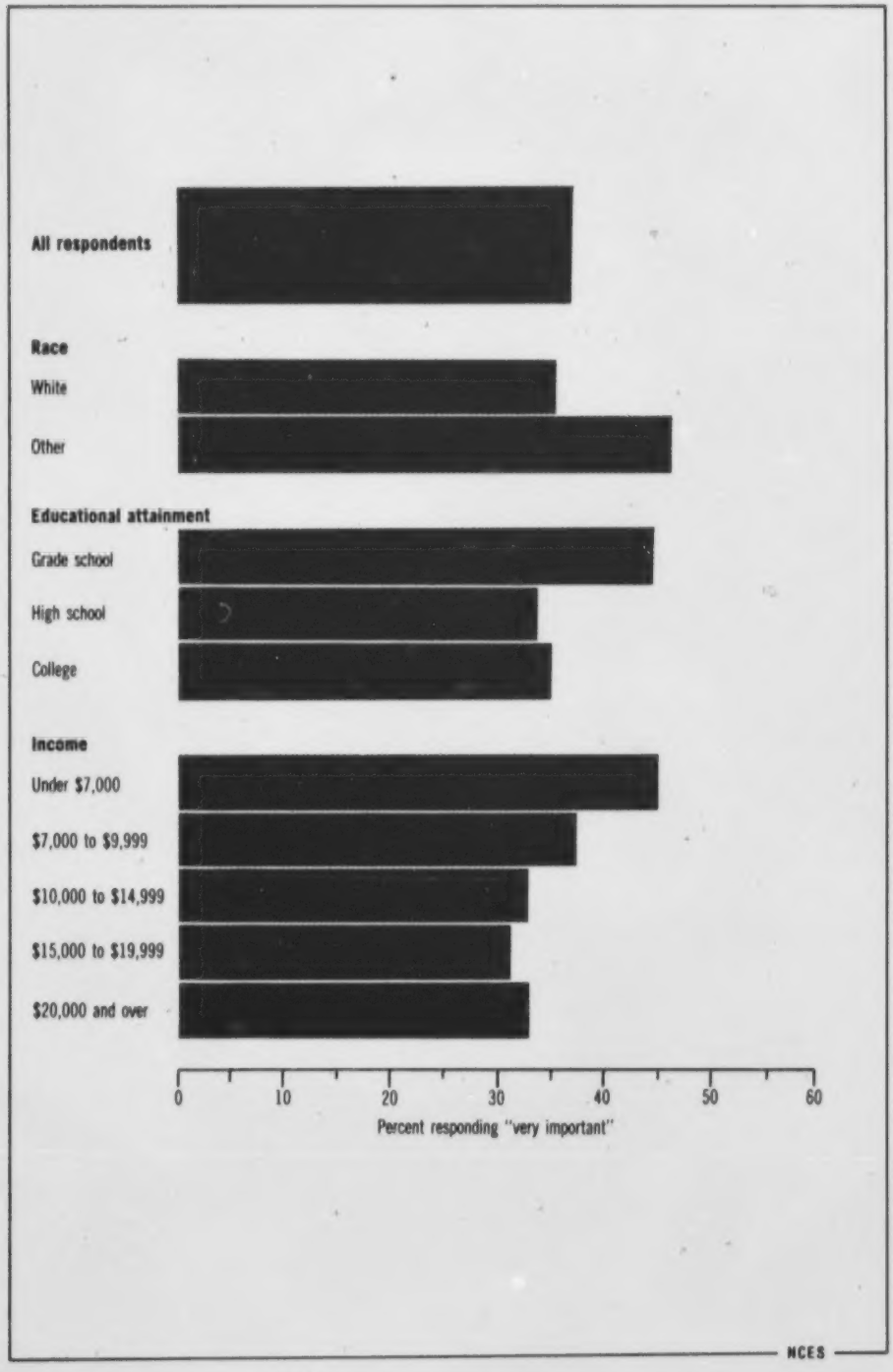

Table 3.12
Distribution of college freshmen, 16 to 34 years old, by number of years since high school graduation: 1970 to 1977

Number of years	Year of college entry							
	1970	1971	1972	1973	1974	1975	1976	1977
	Percentage distribution							
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Same year as high school graduation	65.4	62.4	62.7	61.9	57.6	55.7	54.8	54.1
1 to 3 years after graduation	17.5	18.0	18.1	18.6	22.0	22.2	22.1	20.9
4 or more years after graduation	17.1	19.5	19.0	19.5	20.4	22.1	23.1	24.9

SOURCE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Reports, *School Enrollment—Social and Economic Characteristics of Students*, P-20, unpublished tabulations.

Chart 3.12
Composition of College Freshman Class by Time Elapsed Since High School Graduation

The proportion of college freshmen entering college directly after high school decreased between 1970 and 1977.

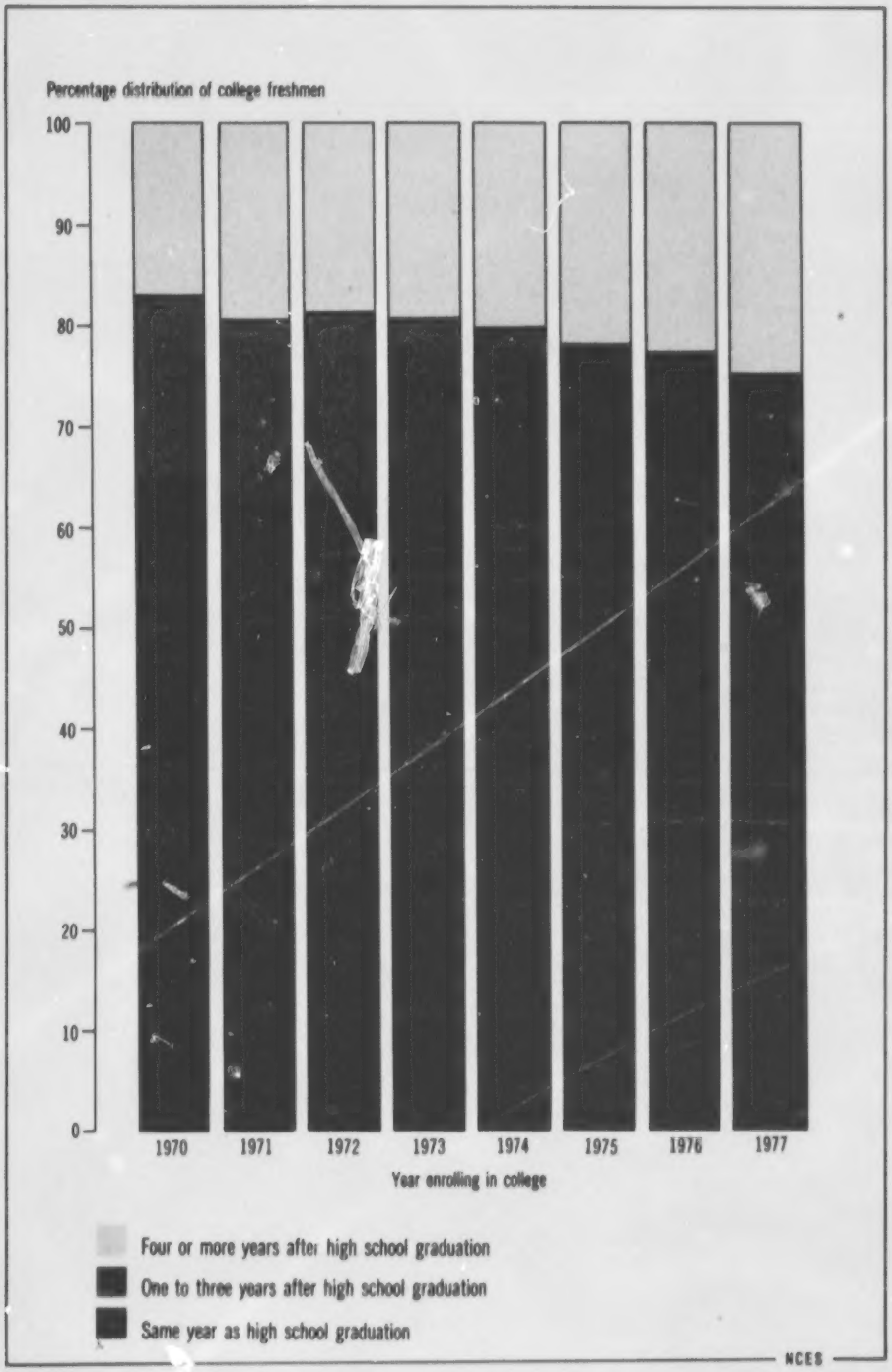

Table 3.13
Number and percent female of full-time instructional faculty in institutions of higher education, by type and control of institution, and academic rank of faculty: Aggregate United States, 1978

Control of institutions and academic rank of faculty	All institutions		Universities		Other 4-year institutions		2-year institutions	
	Number	Percent female	Number	Percent female	Number	Percent female	Number	Percent female
Public and private...	389,033	25.4	121,397	18.3	180,845	25.5	86,791	35.0
Professor	93,042	9.5	42,958	5.9	45,703	11.7	4,381	21.0
Associate professor	94,286	18.2	33,870	14.4	51,280	19.1	9,136	27.1
Assistant professor	103,122	31.6	33,437	28.3	57,348	31.8	12,337	37.5
Instructor	34,700	50.6	7,538	51.4	14,386	51.4	7,776	47.8
Lecturer	5,655	43.4	2,733	40.8	2,480	44.9	442	51.8
No academic rank	58,228	34.7	861	39.0	4,648	31.5	52,719	34.9
Public	284,871	25.6	89,848	18.1	112,863	25.1	82,160	34.4
Professor	64,508	9.3	31,308	5.9	29,061	11.4	4,139	20.6
Associate professor	67,629	17.7	25,634	13.7	33,273	18.3	8,722	27.1
Assistant professor	71,906	31.5	24,426	28.0	35,748	32.1	11,732	37.1
Instructor	24,40[illegible]	50.9	5,686	52.0	11,591	52.7	7,130	47.1
Lecturer	4,727	43.6	2,183	40.4	2,111	45.4	433	50.8
No academic rank	51,694	34.4	611	38.5	1,079	33.6	50,004	34.3
Private	104,162	24.8	31,549	18.8	67,982	26.2	4,631	45.2
Professor	28,534	9.8	11,650	6.1	16,642	12.0	242	28.1
Associate professor	26,657	19.3	8,236	16.3	18,007	20.6	414	27.1
Assistant professor	31,216	31.9	9,011	29.1	21,600	32.6	605	45.3
Instructor	10,293	50.0	1,852	49.9	7,795	49.5	646	55.6
Lecturer	928	42.8	550	42.4	369	42.0	9	100.0
No academic rank	6,534	37.0	250	40.4	3,569	29.3	2,715	46.8

NOTE: Includes only salaried faculty.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, preliminary data.

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Chart 3.13
Faculty in Institutions of Higher Education

At universities, professors comprise the largest faculty group, while assistant professors constitute the largest group at other 4-year institutions.

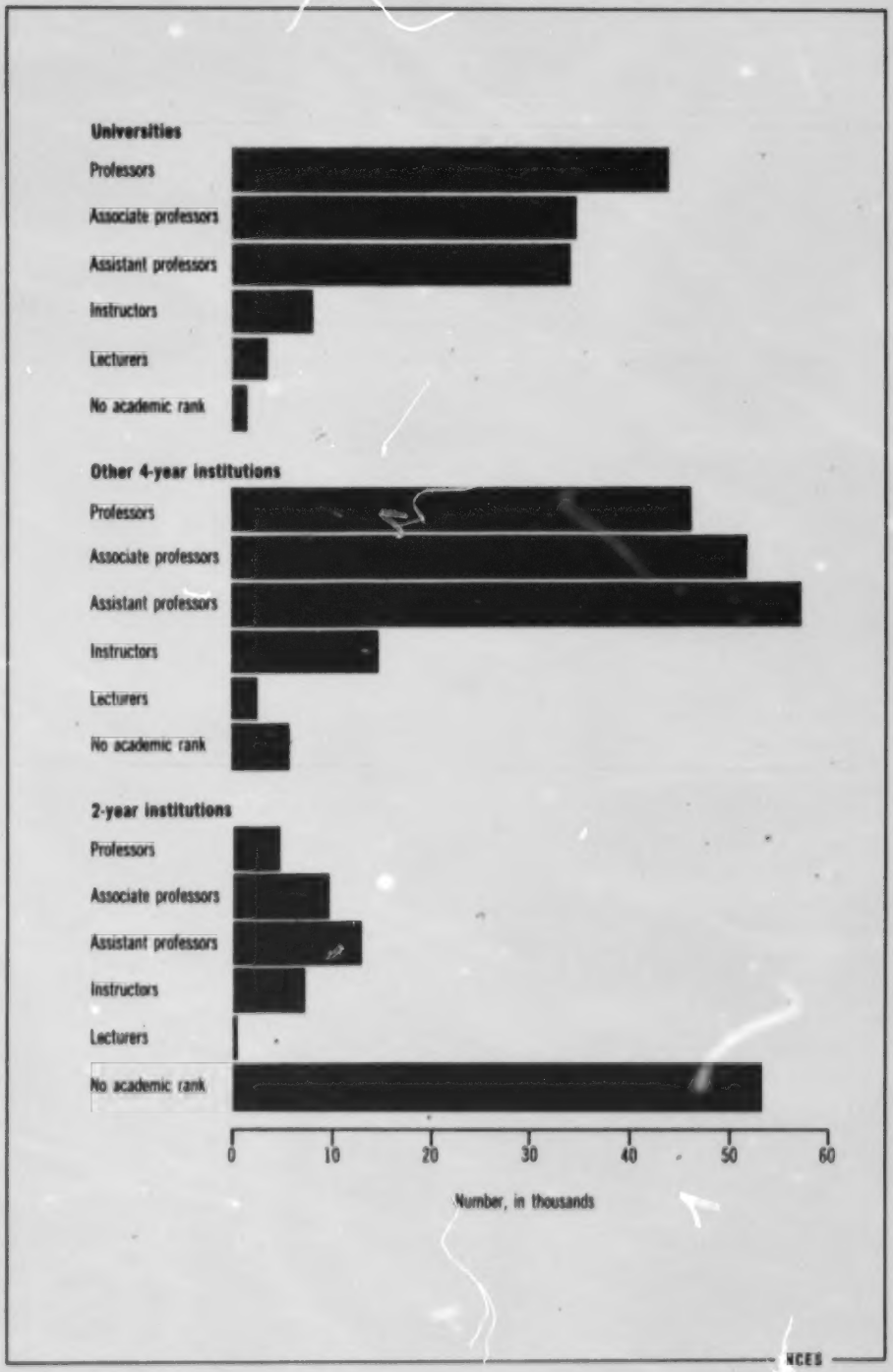


Table 3.14
Educational attainment of new full-time faculty in 2- and 4-year colleges, by control of institution and field: Academic year ending 1977

Field	All institutions[1]		Public		Private	
	Number of new faculty	Percent with doctorates[2]	Number of new faculty	Percent with doctorates[2]	Number of new faculty	Percent with doctorates[2]
Two-year colleges						
Agriculture and natural resources	273	2.2	258	2.3	15	0.0
Arts and humanities	1,249	13.1	1,043	14.3	206	7.3
Biological sciences	510	4.5	450	5.1	60	0.0
Business and management	982	3.6	792	2.5	190	7.9
Education	219	16.0	175	11.4	44	[illegible].1
Engineering	275	2.2	275	2.2	0	0.0
Mathematics	403	9.9	359	11.1	44	0.0
Physical sciences	211	25.6	211	25.6	0	0.0
Social sciences, basic	503	24.1	429	24.7	74	20.3
Social sciences, other	259	12.7	244	13.5	75	0.0
Four-year colleges						
Agriculture and natural resources	142	45.1	120	40.8	22	68.2
Arts and humanities	2,940	49.0	1,316	41.9	1,624	54.8
Biological sciences	482	49.8	194	63.9	288	40.3
Business and management	1,203	35.0	694	38.8	509	29.9
Education	1,272	49.8	715	50.5	557	49.0
Engineering	465	51.8	284	46.1	181	60.8
Mathematics	541	60.3	263	49.0	278	70.9
Physical sciences	687	70.6	287	56.8	400	80.5
Social sciences, basic	1,474	70.4	674	67.1	800	73.1
Social sciences, other	773	50.2	353	53.8	420	47.1

[1] Universities and medical colleges are not included.
[2] Includes those likely to receive the doctorate within 2 years of their appointment.

SOURCE: American Council on Education, Higher Education Panel, *New Full-Time Faculty 1976-1977: Hiring Patterns by Field and Educational Attainment*, 1978.

Chart 3.14
Percent of New Faculty With Doctorates

Although the largest number of new full-time faculty in 2- and 4-year colleges are in the arts and humanities, the largest percentage with doctorates are in the physical sciences.

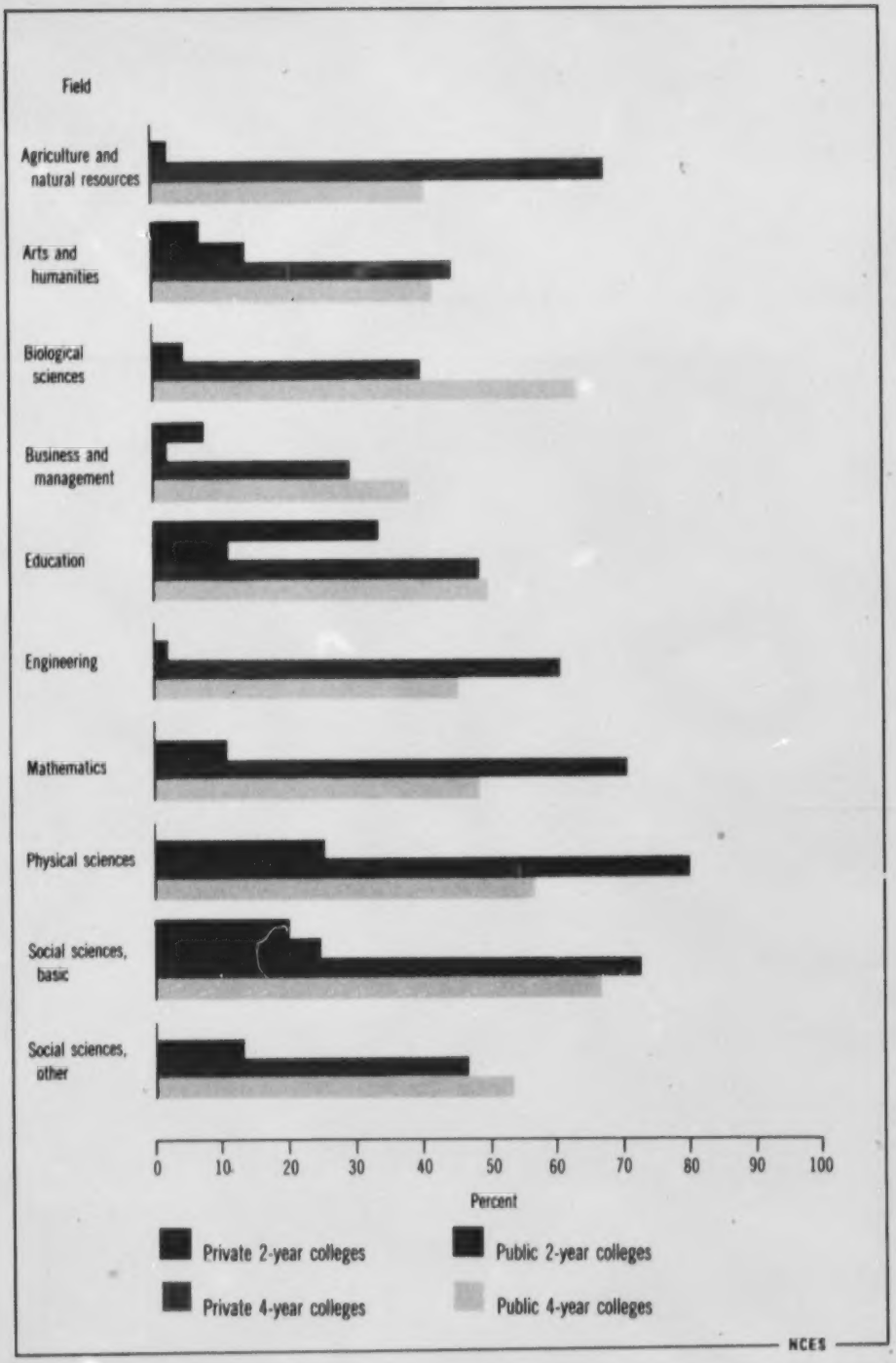


Table 3.15
Average salaries of full-time instructional faculty in institutions of higher education on 9-10 month contracts, by control and type of institution, rank and sex of faculty: Fall 1977

Rank and sex	Public				Private			
	Combined average	Universities	Other 4-year institutions	2-year institutions	Combined average	Universities	Other 4-year institutions	2-year institutions
Professor	$25,003	$26,323	$24,187	$22,087	$24,136	$28,403	$[illegible],040	$13,953
Male	25,180	26,448	24,302	22,205	24,507	28,589	[illegible],280	14,164
Female	23,361	24,340	23,306	21,674	20,653	25,219	[illegible],350	13,448
Associate professor	19,165	19,498	18,985	18,982	17,597	20,036	16,548	14,282
Male	19,266	19,598	19,073	19,076	17,875	20,220	16,787	14,504
Female	18,682	18,862	18,574	18,734	16,338	18,966	15,613	13,780
Assistant professor	15,766	15,817	15,675	15,993	14,455	16,160	13,806	12,377
Male	15,922	16,001	15,837	16,063	14,741	16,398	14,050	12,366
Female	15,428	15,363	15,325	15,871	13,835	15,529	13,613	12,416
Instructor	13,232	12,445	12,672	14,492	11,494	12,762	11,275	10,346
Male	13,704	12,519	12,984	15,149	11,774	13,036	11,513	10,607
Female	12,760	12,381	12,391	13,658	11,207	12,418	11,037	10,145
Lecturer	13,990	14,497	13,811	12,304	13,104	13,972	11,747	10,763
Male	14,687	15,221	14,628	12,299	13,759	14,580	12,252	13,500
Female	13,051	13,488	12,751	12,310	12,256	13,162	10,853	10,639

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty in Institutions of Higher Education, 1977-78*, forthcoming.

Chart 3.15
Average Salaries of Full-Time Institutional Faculty in Institutions of Higher Education

Except at the university level, public institutions pay higher salaries for faculty in equivalent positions than do private institutions.

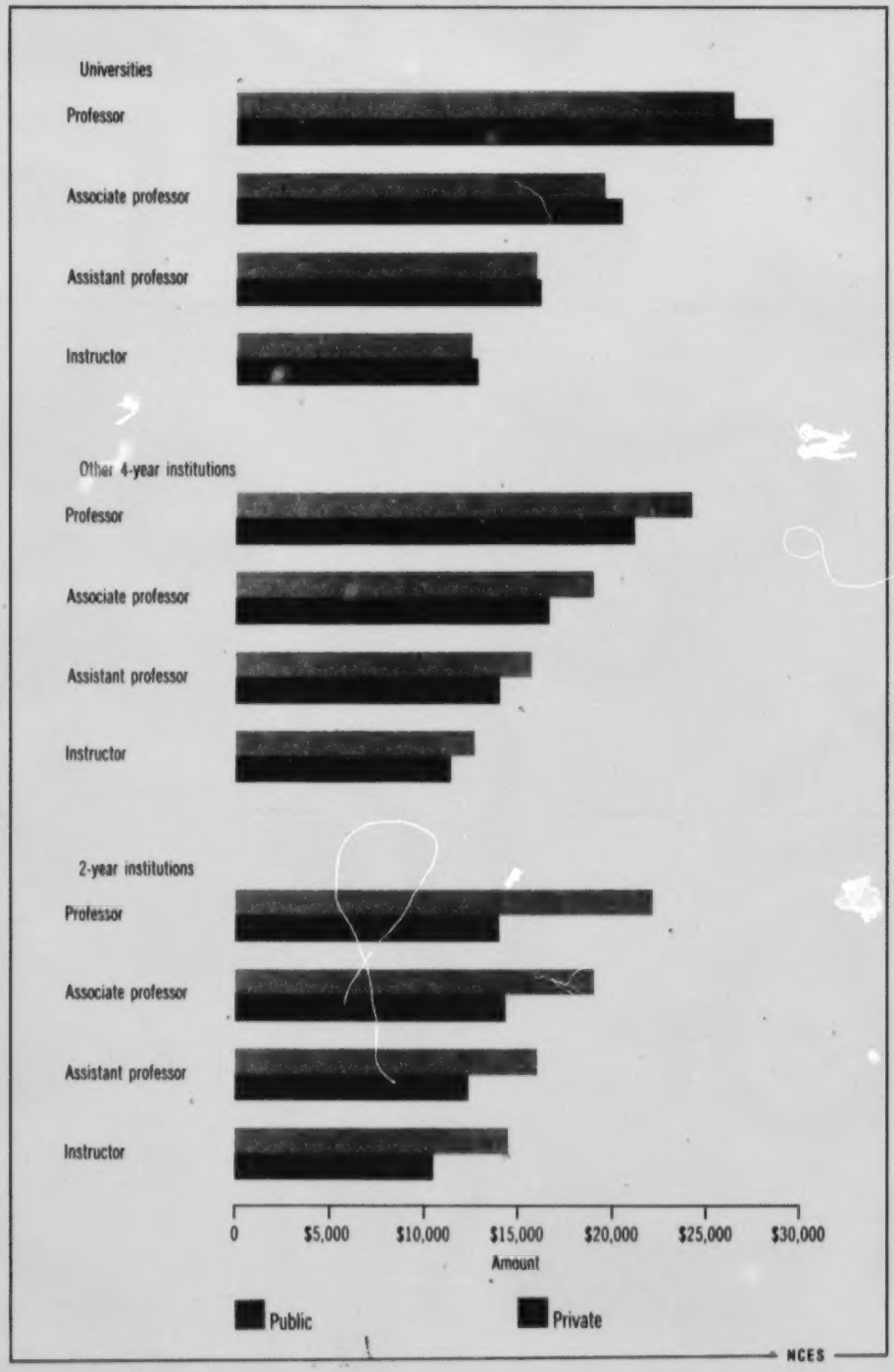


Table 3.16
Current funds expenditures of institutions of higher education, by control and type of institution and by purpose: 1976-77

Purpose	Universities		Other 4-year institutions		2-year institutions	
	Amount	Percent	Amount	Percent	Amount	Percent
	(Amounts, in thousands)					
	Public					
Total	$12,153,524	100.0	$11,257,257	100.0	$5,224,065	100.0
Educational and general	9,413,626	77.4	8,683,738	77.1	4,899,734	93.8
Student education [1]	6,429,161	52.8	7,316,584	65.0	4,523,683	86.6
Research [2]	1,727,807	14.2	607,235	5.4	15,698	.3
Scholarships and fellowships [3]	377,749	3.1	338,432	3.0	142,830	2.7
Public service	763,809	6.3	250,152	2.2	97,747	1.9
Mandatory transfers [4]	115,099	.9	171,335	1.5	119,776	2.3
Auxiliary enterprises [5]	1,558,995	12.8	1,204,140	10.7	324,331	6.2
Hospitals and independent operations [6]	1,180,904	9.7	1,369,379	12.2	0	0
	Private					
Total	$ 6,540,846	100.0	$ 7,099,960	100.0	$ 324,165	100.0
Educational and general	4,694,593	71.8	5,191,336	73.1	268,655	82.9
Student education [1]	3,169,651	48.5	4,175,115	58.8	239,285	73.8
Research [2]	988,656	15.1	259,650	3.7	1,022	.3
Scholarships and fellowships [3]	380,821	5.8	512,239	7.2	18,144	5.6
Public service	105,011	1.6	123,717	1.7	2,967	.9
Mandatory transfers [4]	50,453	.8	120,615	1.7	7,236	2.2
Auxiliary enterprises [5]	630,413	9.6	1,084,945	15.3	55,504	17.1
Hospitals and independent operations [6]	1,215,839	18.6	823,679	11.6	6	(7)

[1] Includes instruction, academic support, libraries, institutional support, student services, and operation and maintenance of the plant.
[2] Includes all sponsored research and other separately budgeted research with the exception of federally funded research and development centers which are included under "independent operations."
[3] Moneys given in the form of outright grants and trainee stipends to individuals enrolled in formal course-work, either for credit or not. Includes aid in the form of tuition or fee remissions.
[4] Mandatory transfers from current funds are those that must be made to fulfill a binding legal obligation of the institution. Included debt service provisions relating to academic buildings, including amounts set aside for debt retirement and interest, and required provisions for renewal and replacements to the extent not financed from other sources.
[5] Includes residence halls, food services, college store, and intercollegiate athletics.
[6] Includes expenditures for hospitals and for "independent operations" which are generally limited to expenditures of federally funded research and development centers. Includes mandatory transfers from hospitals and independent operations.
[7] Less than 0.05 percent.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 3.16
Distribution of Current Funds Expenditures of Institutions of Higher Education

Two-year institutions spend a larger proportion of current funds for education and general expenditures than do other types of institutions of higher education.

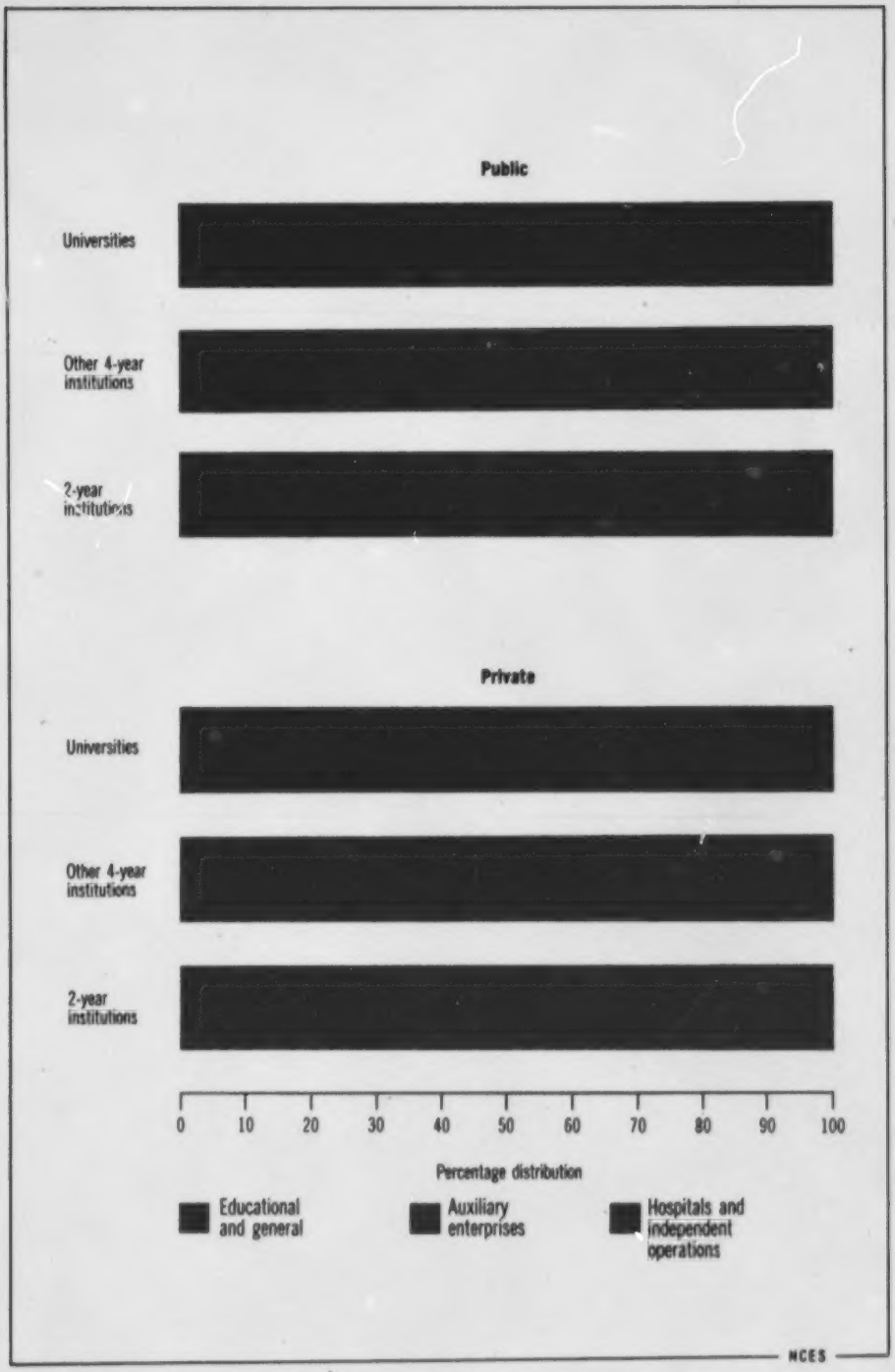


Table [illegible]7
Amount and percentage distribution of current funds revenues of institutions of higher education, by control and type of institution and source of funds: 1968 and 1977

Source	Public			Private		
	Universities	Other 4-year institutions	2-year institutions	Universities	Other 4-year institutions	2-year institutions
			Academic year ending 1968			
Amount, in thousands	$ 6,556,383	$ 2,635,928	$1,149,758	$3,255,509	$3,007,871	$219,749
			Percentage distribution			
Total	100.0	100.0	100.0	100.0	100.0	100.0
Tuition and fees	10.8	13.2	13.2	25.3	41.1	52.7
Federal government	24.1	13.3	5.6	16.5	14.0	4.1
State government	37.2	48.8	37.7	1.6	.7	.4
Local government	.3	2.6	34.2	0.6	.2	.1
Private gifts, grants and contracts	4.9	1.4	.5	9.6	11.9	11.7
Endowment income	.6	.1	.1	6.4	5.3	1.7
Sales and services	17.4	18.7	7.2	12.8	23.2	27.3
Other sources	4.7	1.9	1.5	7.1	3.6	2.0
			Academic year ending 1977			
Amount, in thousands	$12,330,269	$11,512,696	$5,412,368	$6,637,557	$7,205,157	$338,759
			Percentage distribution			
Total	100.0	100.0	100.0	100.0	100.0	100.0
Tuition and fees	12.6	12.7	15.4	28.1	43.3	54.9
Federal government	18.0	15.4	7.2	27.3	13.3	6.0
State government	41.5	47.1	45.3	1.9	2.3	2.1
Local government	.4	1.7	23.5	1.1	.5	.7
Private gifts, grants and contracts	3.6	1.8	.5	8.9	10.9	12.5
Endowment income	.5	.2	.1	5.6	4.1	1.6
Sales and services	21.8	19.6	6.3	24.4	22.2	19.1
Other sources	1.7	1.4	1.7	2.8	3.4	3.0

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare National Center for Education Statistics, unpublished tabulations.

Chart 3.17
Current Funds Revenues of Institutions of Higher Education

State aid comprises the largest portion of government aid to public institutions, while Federal aid constitutes the largest portion of government aid to private institutions.

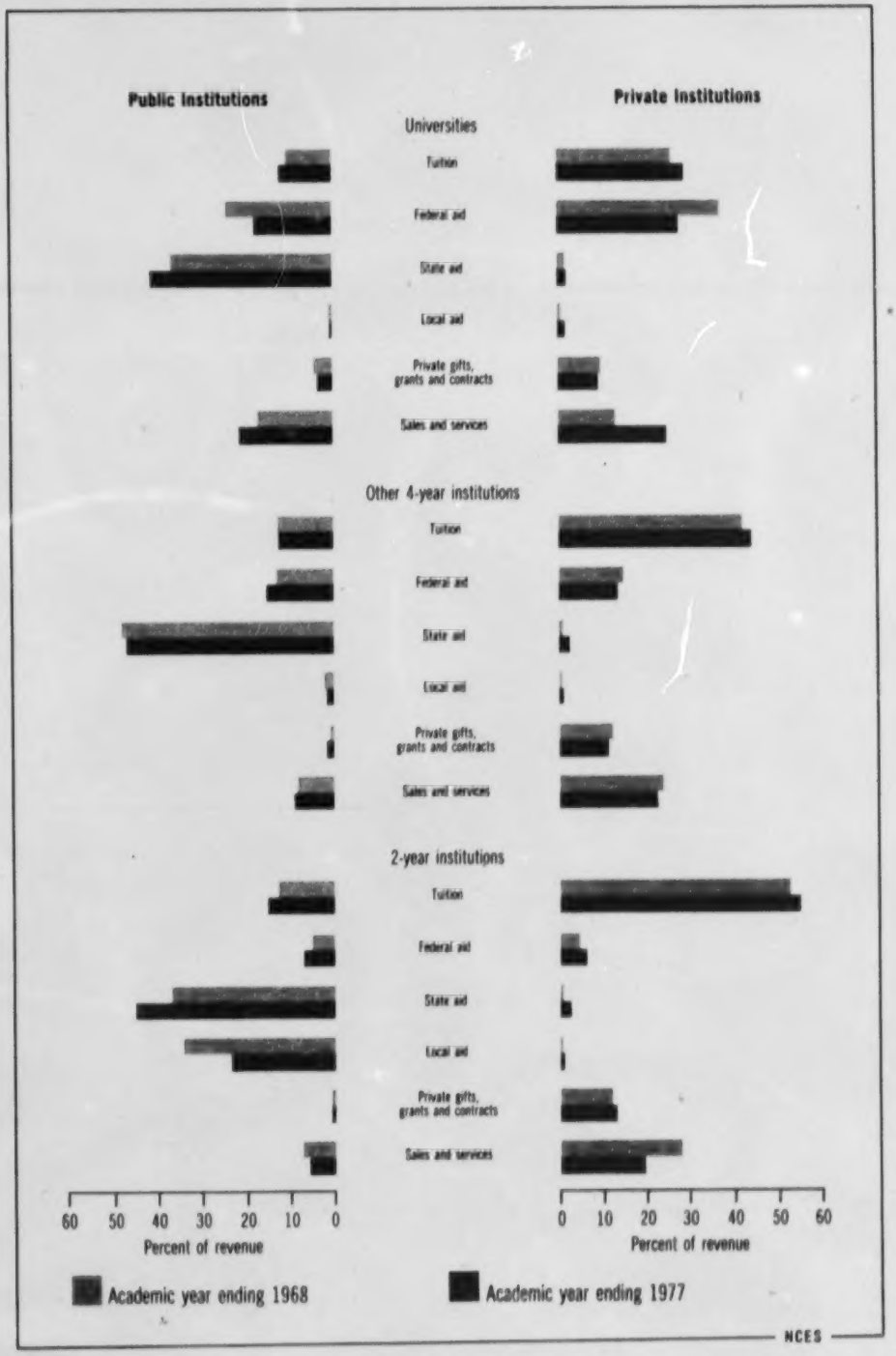


Table 3.18
Estimated average charges in constant 1976-77 dollars per full-time-equivalent student in institutions of higher education, by control and type of institution: Academic year ending 1968 to 1977

Academic year ending	Tuition and required fees				Room and board[1]			
	All institutions	Universities	Other 4-year institutions	2-year institutions	All institutions	Universities	Other 4-year institutions	2-year institutions
	(Constant 1976–77 dollars)							
1968[2]								
Public	$ 488	$ 631	$ 462	$ 248	$1,321	$1,438	$1,257	$1,112
Private	2,237	2,646	2,134	1,540	1,567	1,743	1,496	1,502
1969								
Public	485	620	462	280	1,353	1,429	1,296	1,174
Private	2,276	2,696	2,197	1,573	1,544	1,703	1,485	1,515
1970								
Public	502	663	476	278	1,368	1,153	1,389	1,201
Private	2,382	2,811	2,282	1,606	1,550	1,725	1,478	1,491
1971								
Public	519	706	490	276	1,383	1,477	1,292	1,228
Private	2,489	2,926	2,368	1,639	1,557	1,748	1,471	1,468
1972								
Public	536	750	505	274	1,399	1,501	1,276	1,256
Private	2,596	3,042	2,454	1,672	1,565	1,771	1,464	1,446
1973								
Public	558	776	621	319	1,441	1,510	1,378	1,322
Private	2,602	3,051	2,530	1,674	1,562	1,763	1,492	1,442
1974								
Public	551	731	583	345	1,358	1,416	1,313	1,258
Private	2,503	2,988	2,422	1,640	1,479	1,689	1,403	1,393
1975								
Public	533	676	536	358	1,299	1,360	1,253	1,207
Private	2,414	2,871	2,306	1,519	1,422	1,618	1,350	1,317
1976								
Public	524	683	530	361	1,301	1,366	1,252	1,208
Private	2,469	2,960	2,312	1,565	1,436	1,636	1,363	1,366
1977								
Public	550	692	570	382	1,324	1,381	1,284	1,221
Private	2,564	3,139	2,381	1,620	1,494	1,710	1,394	1,384

[1] Board is calculated on a 7-day basis.
[2] Interpolated

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1986-87*, 1978.

Chart 3.18
Student Charges for Higher Education

When adjusted for inflation, tuition and fees in public institutions have remained fairly constant, while similar charges at private schools have generally increased over the decade from 1968 to 1977.

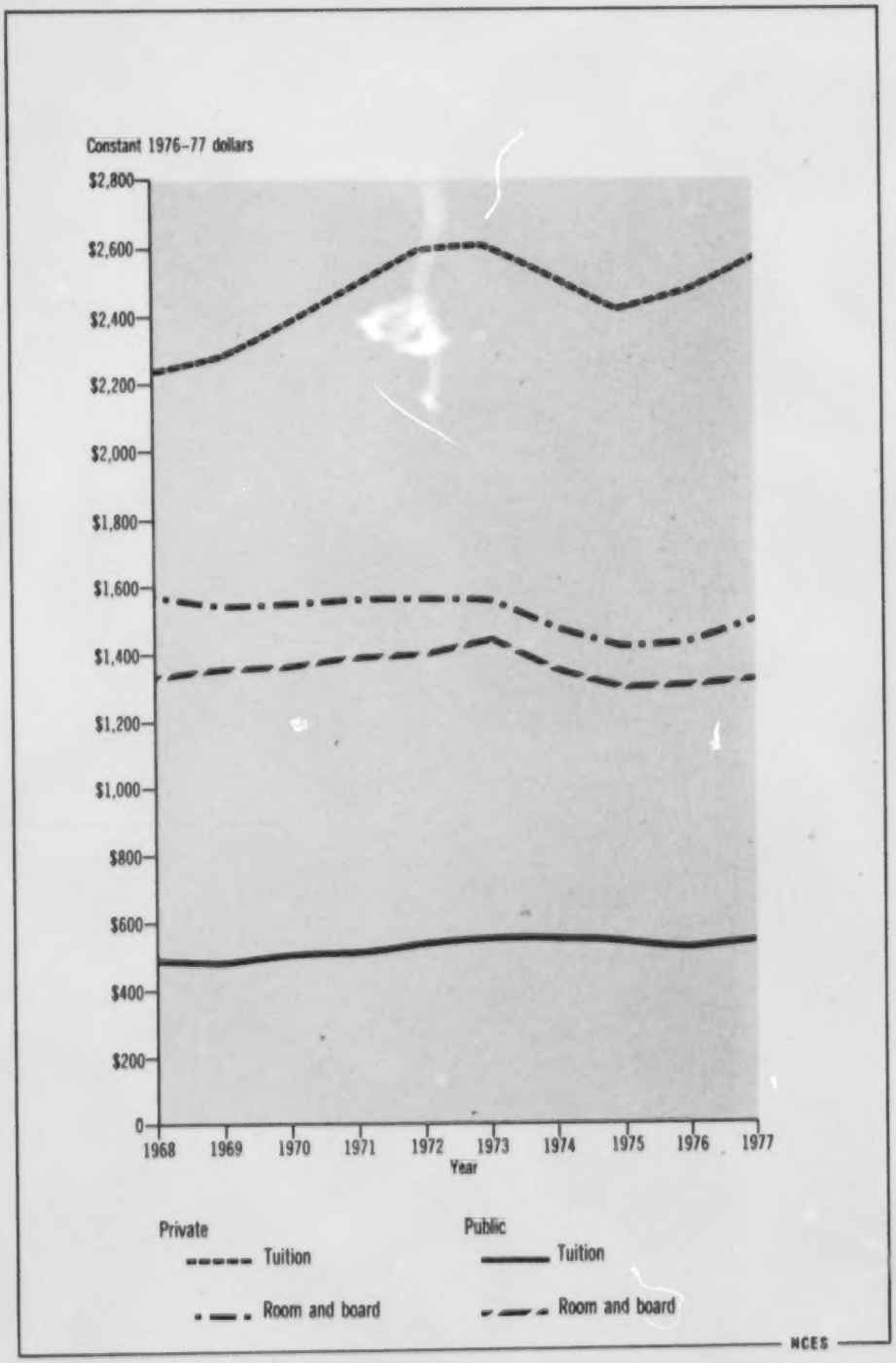


Table 3.19
Public opinion on college aid plans, by percent of respondents favoring plans and by income and educational level of respondent: 1978

Plan	All respondents	Income				Education		
		Under $7,000	$7,000 to $14,999	$15,000 to $24,999	$25,000 and over	Non-high school graduate	High school graduate	College
A. $250 reduction in taxes regardless of income for each year a child is in college	9	9	11	7	11	9	9	11
B. $250 reduction in taxes for those with less than $25,000 of income for each year a child is in college	14	10	14	16	14	9	13	18
C. Raise the income ceiling under which government grants and loans are available	34	23	31	38	43	27	34	39
D. Provide direct government aid to colleges so tuition fees can be held down	20	22	20	19	18	19	22	19
None	16	19	17	16	13	19	18	12
Don't know	7	18	8	4	1	17	5	1

SOURCE: The Roper Organization, Inc., *The American Public and the Income Tax System*, 1978.

Chart 3.19
College Aid Plans Favored: Public Opinion

While no one plan to aid people with the cost of college is favored by a majority of those surveyed, the plan to raise the income ceiling under which government grants and loans are available is favored by a plurality at each of the income and education levels.

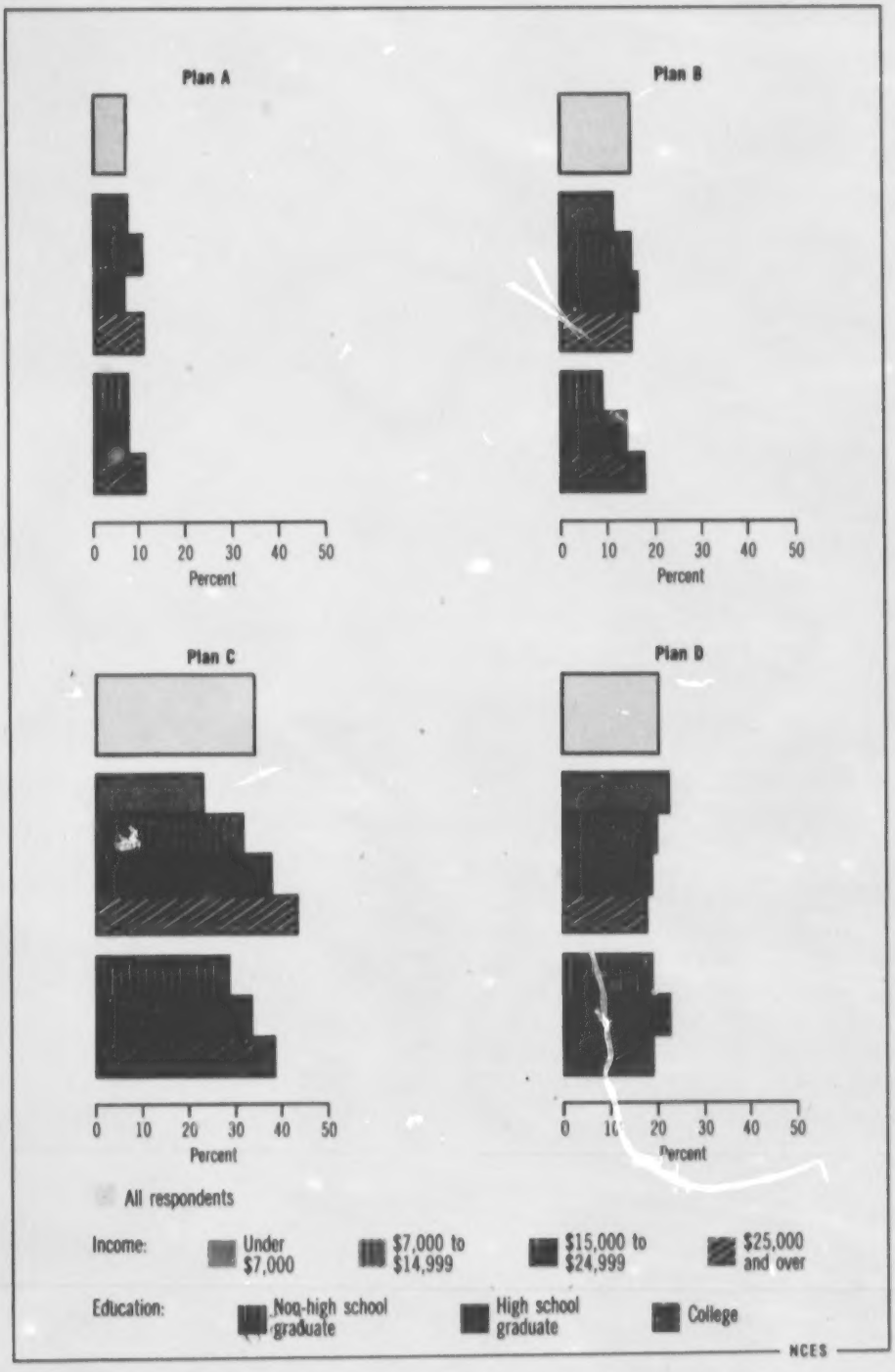


Table 3.20
Current funds expenditures, enrollments and price indices in higher education: Academic year ending 1971 to 1978

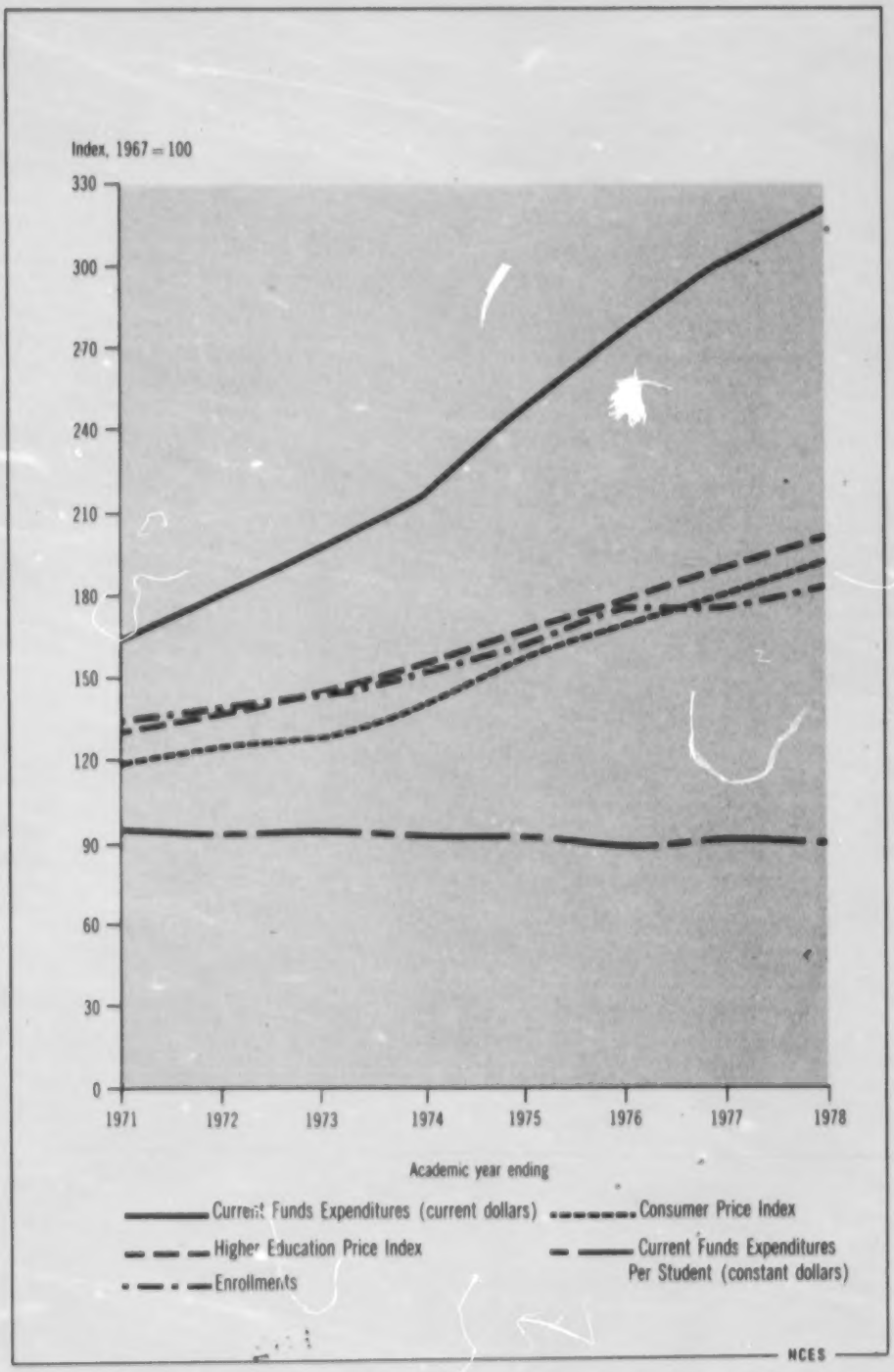
Item	1971	1972	1973	1974
	(Dollars, in thousands)			
Totals				
Current funds expenditures	$23,515,225	$25,718,535	$28,142,432	$30,916,371
Enrollment	8,649,368	9,025,031	9,297,787	9,694,297
Indices[1]				
Current funds expenditures (current dollars)	164	180	197	216
Enrollment	134	140	144	151
Higher Education Price Index	129	136	143	153
Consumer Price Index	119	123	128	140
Current funds expenditures per student (constant 1978 dollars)	95	94	95	93
	1975	1976	1977	1978
Totals				
Current funds expenditures	$35,300,941	$39,150,984	$42,874,450	$45,918,536
Enrollment	10,321,539	11,290,719	11,121,426	11,415,020
Indices[1]				
Current funds expenditures (current dollars)	247	274	300	321
Enrollment	160	175	173	177
Higher Education Price Index	166	177	189	201
Consumer Price Index	155	166	176	188
Current funds expenditures per student (constant 1978 dollars)	92	88	92	90

[1] 1967 = 100

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Fall Enrollment in Institutions of Higher Education 1971-76, State Data* and unpublished tabulations; National Institute of Education, *Higher Education and Prices Indexes*, 1978 supplement.

Chart 3.20
Higher Education Current Funds Expenditures, Enrollments and Price Indices

Although current funds expenditures have risen sharply since 1971, per-student expenditures, when adjusted for inflation, show a decline over the period.



The Condition of Education

II Selected Topics in Education

Chapter 4
Financing Public Elementary and Secondary Education

Recent concern over high taxes and rising inflation has focused greater attention on how America pays for its schools. In the 1978 elections, tax reform issues pervaded almost every campaign. California's Proposition 13 and similar efforts elsewhere placed particular emphasis on property tax reform in an effort to reduce the burden on property owners. Public schools depend primarily on property tax revenues and these proposed reforms directly affect their financial structure. Allocation procedures are also being scrutinized to provide greater equity in revenue collection and expenditure disbursement. School finance is no longer the province of a small number of State officials; it increasingly involves a wide range of complex issues attracting greater participation and interest of other professionals and the general public. This chapter examines public elementary and secondary school finance in the context of these recent occurrences.

Government Sources

Public opinion polls taken in 1974 and 1978 indicate a majority believe that too little is spent on education compared to some other government functions (entry 4.1). But education still ranks first in governmental expenditures, amounting to over 21 percent of the total general government payments. Although there was a decline in direct Federal expenditures for education between 1976 and 1977, Federal contributions to State and local governments for education increased by over 10 percent (entry 4.2). Direct Federal expenditures consist primarily of veterans' education benefits, while the largest portion of the Federal intergovernmental expenditures is for elementary and secondary education. Revenues from other levels of government increased in 1977, though by smaller amounts than in 1975 or 1976 (entry 4.2).

The distribution of sources of financial support for education is changing. Thirty years ago the financing of public education was primarily a local function. In 1942, local sources contributed over two-thirds of the total funding; smaller amounts of State and Federal aid were contributed (entry 4.3). But by 1978 the proportion of local revenues for elementary and secondary education had dropped to less than half of total revenues. The State share had increased to 44 percent and the Federal share to over 8 percent. State involvement with elementary and secondary education is even more substantial than this revenue proportion suggests, since over one-third of the Federal share is administered by the States. These "flow-through" grants increase State fiscal responsibilities to a level almost equal to aggregate local contributions (entry 4.4).

State financing systems vary greatly and comparisons are difficult. However, one useful method, computing education revenue as a percentage of personal income, allows for the comparison of revenue generating efforts in the States. Nine States with below average per capita income levels have above average education-revenue to personal income ratios, demonstrating a substantial tax effort (entry 4.5). At the other end of the spectrum are 10 States with above average per capita income and below average revenue-to-income ratios. Revenues from Federal sources tend to represent a larger share of total education revenues in States with low personal income.

School bond sales for financing the acquisition of public school facilities (land, construction, buildings) and equipment declined between 1967 and 1977 (entry 4.6). Both the number of school bond issues proposed and the number approved decreased during this period. The proportion approved ranged from a high of 68 percent in 1968 to a low of 46 percent in 1975. The par value of issues approved also declined during this period. These trends are related to the enrollment declines discussed in chapter 2. As enrollments dropped, so did the need for construction of new public school facilities. The need for replacement of facilities and equipment remains, however. The drop in the number of school bond elections held is indicative of the enrollment decline, but the drop in the proportion approved may be indicative of a decline in public willingness to finance education.

Expenditures

Even when adjusted for inflation, public school expenditures are projected to rise through 1987 (entry 4.7). Using constant 1976-77 dollars, expenditures allocable to pupil costs were almost $20 billion in 1957. Twenty years later they had risen to more than 3 times that amount. By 1987 expenditures of public school systems are expected to be more than 4 times the 1957 amount. Instruction is the largest expenditure category for public schools, with most of this amount supporting teacher salaries (entry 4.8). Since 1972, average teacher salaries have increased annually, but when adjusted for inflation, average salaries actually decreased (entry 4.9). Very little savings will be realized through professional staff reductions which may accompany decreased enrollments. In fact, because reductions in force will be based on seniority, the cost of supporting professional staff may increase as the work force matures.

Transportation costs also continue to rise. In 1940 only 16 percent of all public school pupils were being transported at public expense, at an average cost per pupil of slightly over $20 (entry 4.10). As school systems and schools were consolidated, the proportion of pupils being transported at public expense rose steadily to a high of 55 percent in 1976. As enrollments decline, more schools may be consolidated in the future, but savings thus accrued will be offset somewhat by the need to provide transportation for more students. In 1976, the average per-pupil cost had increased to 5 times the cost in 1940. Rising fuel costs are likely to force transportation expenditures even higher in the future.

Instruction, transportation, and other costs continued to rise even while enrollments were dropping. In 1977, 33 States had fewer pupils than in 1970, but in each of these States, expenditures increased (entry 4.11). In 15 of the States with lower enrollments, the expenditure increases were greater than the average increase for the Nation.

Financial Reform

In recent years disparities in educational resources have been a concern at all levels of government, but particularly at the State level. An examination of differences in school district expenditure levels reveals the extent to which disparities exist both within and among the States. Within-State disparities can be measured by distributing school districts in a State across a range of 10 per-pupil-expenditure intervals. In 1977, school districts in 15 States were spread across all 10 intervals (entry 4.12). School districts in 6 States were spread across a range of fewer than 5 expenditure per-pupil intervals. In five of these States, Alabama, Mississippi, North Carolina, South Carolina, and West Virginia, the interval spreads were at the lower end of the range. Only in Alaska was the spread at the highest intervals. For the entire United States, over half of the school districts had current expenditures between $800 and $1,400 per pupil. Among the States, median per-pupil expenditures ranged from a low of $766 in Tennessee to a high of $3,049 in Alaska.

Another measure of within-State disparities is shown in entry 4.13. This measure allows for a comparison of changes in disparities from 1970 to 1977. A decrease in disparities is indicated by percents of 98 and below on the 1977-to-1970 comparison measure. Twenty-eight States decreased disparities during this period. Increasingly, States are overhauling existing financial structures to provide greater equity in education funding. Between 1970 and 1977, 25 States had enacted reforms of elementary and secondary education finance structures (entry 4.14). In 18 of these reform States, disparities were reduced.

The impetus for school finance reform has come from State jurists and legislators. In *San Antonio v. Rodriguez* the Supreme Court ruled that the Constitution does not guarantee education as a fundamental right and left the design of funding systems to State discretion. State courts responded to the issue in quite a different manner. In a series of decisions beginning with *Serrano v. Priest* in California, State courts found fault with existing financing structures for failing to provide equitable collection and distribution of education aid. This prompted changes in funding structures which ranged from minor alterations to revolutionary new efforts. Equalization efforts generally reflect three approaches: high-level foundation, augmented foundation, and district power equalization. These programs are structured around combinations of the basic components of school finance—district wealth, tax effort, and student need.

High-level foundation programs provide for a minimum level of per-pupil support funded through State and local allocations. The local share is raised through property taxes generated at a State mandated rate. State funds fill the gap between local tax revenues and the prescribed minimum level. The degree of equalization achieved increases as the mandated foundation level is raised, since a larger proportion of district expenditures become eligible for State aid. But disparities can become more prevalent as wealthier districts tax above the prescribed rate. Of the 11 States enacting this type of reform, 7 have reduced disparities, 1 State maintained its 1970 level, and in 3 States disparities increased.

An augmented foundation plan focuses on both a district's wealth and tax effort. A guaranteed tax base is created by the legislature and local tax rates applied; the result is a minimum revenue base. State aid is provided to make up the difference between this guaranteed base and funds actually raised by the local tax system. This method provides incentive to increase the local tax rate since State aid increases proportionally. Once again the degree of equalization achieved is contingent upon the level of the guaranteed tax base. A relatively high base provides more districts with equal funds while a low base allows wealthier districts to spend greater amounts.

A percentage equalizing formula is another type of augmented foundation program which attempts to reduce disparity by concentrating on the degree to which State and local jurisdictions share education expenditures. The State determines the percentage of total costs it will support in an average district and then adjusts this figure to each local jurisdiction based on particular need and cost rquirements. This adjusted percentage is then applied to total local expenditures to determine the level of State support the area will receive. The degree of equity obtained through this plan depends on two factors: the percentage of expenditures the State agrees to support and the overall expenditures level determined by each local district. The greater the percentage supported by the State, the greater the equity obtained, given equivalent total expenditures. If total expenditures vary significantly, wealthier areas spending more will receive greater amounts of State aid, and disparity will proliferate. Three of the 6 States using an augmented plan based on a guaranteed tax base or percentage equalization formula have increased disparities.

District power equalizing programs guarantee a specific dollar yield for a given tax effort. Districts in which the tax rate fails to provide the guaranteed yield receive State aid up to the guaranteed level. Through the "recapture" provision in such programs, districts whose tax exceeds the guaranteed level must return the difference to the State for redistribution. Expenditure disparities could result if districts reduced their tax rate in order to avoid loosing funds through the recapture provision. The lower tax rate would provide equivalent yield while enhancing the attractiveness of property values in the area, causing wealth disparity. But of the 8 States that have enacted this type of reform, only 1 has increased disparities as measured by the index shown in entry 4.13.

Equalization programs can be evaluated using two different standards: fiscal neutrality and expenditure equalization. Efforts to compensate for differences in intrastate district wealth attempt to achieve wealth neutrality. These reforms adjust fiscal capacity in order to provide that variations in expenditures will reflect differences in tax effort, rather than wealth differences. In contrast, expenditure equalization efforts attempted to reduce disparity in per-pupil expenditures throughout a State. Absolute equality (wealth neutrality and expenditure equality) might be impossible to achieve without full State funding but even then special need students (handicapped, bilingual, and economically disadvantaged) will require special expenditure consideration.

Table 4.1
Puplic opinion of national spending for problems facing the United States: 1974 and 1978

Item	Education	Health	Foreign aid/ defense	Welfare
		Percentage distribution		
		1974		
All responses.....	100.0	100.0	100.0	100.0
Too little.....	50.3	63.6	9.9	22.1
About right.....	36.7	28.0	31.3	31.7
Too much.....	8.5	4.5	53.2	42.0
Don't know/no answer...	4.4	3.9	5.6	4.2
		1978		
All responses.....	100.0	100.0	100.0	100.0
Too little.....	51.6	55.4	15.4	13.0
About right.....	33.6	33.9	33.7	24.9
Too much.....	10.9	6.9	44.2	58.2
Don't know/no answer...	3.9	4.0	6.7	3.9

NOTE: Details may not add to totals because of rounding.

SOURCE: National Opinion Research Center, University of Chicago, *General Social Surveys, 1972–1978: Cumulative Codebook*, 1978.

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Chart 4.1
Government Spending: Public Opinion

In 1974 and 1978 over half of the public believed too little is spent on education and health. For the same years, over 70 percent of the public believed spending for welfare and foreign aid/ defense to be about right or too much.

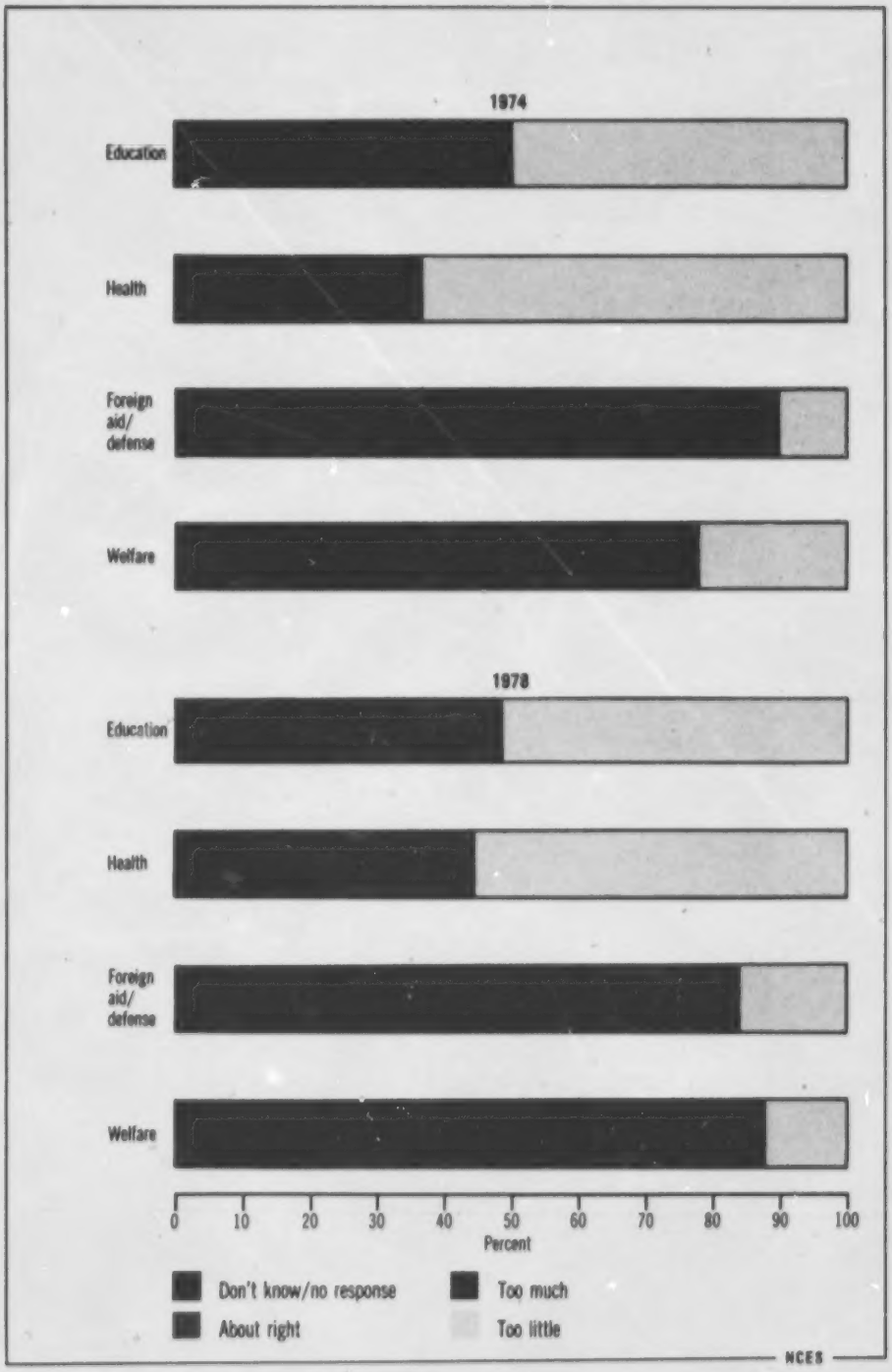

Table 4.2
Selected governmental general expenditures, by level of government and purpose of expenditure: Fiscal years 1974 to 1977

Item	Amount (In millions)				Percent change		
	1974	1975	1976	1977	1974 to 1975	1975 to 1976	1976 to 1977
Federal government (direct [1])							
Education [2]	$5,820	$7,153	$9,039	$7,836	22.9	26.4	−13.3
Health and hospitals	5,723	5,996	6,884	7,507	4.8	14.8	9.0
Defense and international affairs	85,444	93,877	98,000	105,592	9.9	4.4	7.7
Welfare	16,286	12,212	13,694	14,914	−25.0	12.1	8.9
State and local governments							
Education	75,833	87,858	97,216	102,805	15.9	10.7	5.8
Health and hospitals	15,945	18,846	20,686	22,543	18.2	9.8	9.0
Defense and international affairs	NA	NA	NA	NA	NA	NA	NA
Welfare	25,085	28,155	32,604	35,941	12.2	15.8	10.2
Federal intergovernmental [3]							
Education	7,496	8,959	9,254	10,205	19.5	3.3	10.3
Health and hospitals	NA	NA	NA	NA	NA	NA	NA
Defense and international affairs	NA	NA	NA	NA	NA	NA	NA
Welfare	12,837	14,352	17,225	19,520	11.8	19.9	13.3

NA Not applicable.
[1] All expenditures other than intergovernmental expenditures (See footnote 3).
[2] Direct Federal expenditures for education consist primarily of veteran's educational benefits but include funds for the operation of the United States Office of Education, grants to individuals and institutions of higher education, and other expenditures.
[3] Mainly concerns payments made in the form of grants-in-aid or shared taxes. The largest portion of Federal intergovernmental expenditures for education was for grants-in-aid to local elementary and secondary school systems.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Governmental Finances in 1976–77*, 1978.

Chart 4.2
Percent Change in Governmental Expenditures

Although direct Federal expenditures for education decreased in 1977, intergovernmental expenditures increased. The percentage increase in State and local expenditures for education in 1977 is the smallest in the past two years.

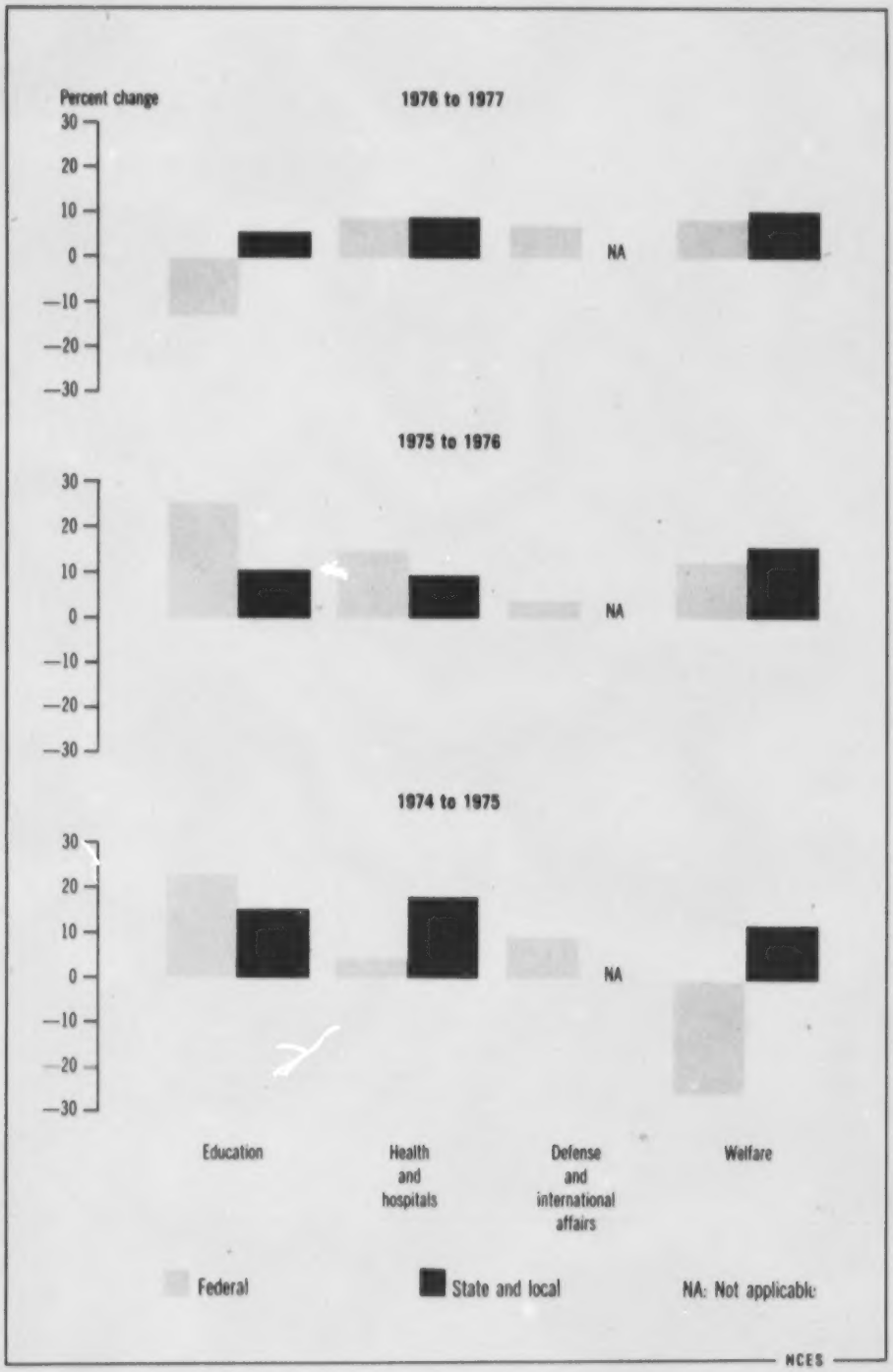

Table 4.3
Revenue receipts of public elementary and secondary schools, by source: 1942 to 1978

School year ending	Total	Federal	State	Local [1]
		Current dollars (in millions)		
1942	$ 2,417	$ 34	$ 760	$ 1,622
1946	3,060	41	1,062	1,956
1950	5,437	156	2,166	3,116
1954	7,867	355	2,944	4,568
1958	12,182	486	4,800	6,895
1962	17,528	761	6,789	9,978
1966	25,357	1,997	9,920	13,440
1970	40,267	3,220	16,063	20,985
1974	58,231	4,930	24,281	29,020
1978 [2]	80,925	6,575	35,692	38,658
		Constant 1977–78 dollars (in millions)		
1942	9,717	137	3,055	6,521
1946	10,513	141	3,649	6,720
1950	14,379	413	5,728	8,241
1954	18,314	826	6,853	10,634
1958	26,693	1,065	10,518	15,108
1962	36,509	1,585	14,141	20,783
1966	49,733	3,917	19,456	26,360
1970	66,771	5,339	26,636	34,797
1974	78,193	6,620	32,605	38,968
1978 [2]	80,925	6,575	35,692	38,658
		Percentage distribution		
1942	100.0	1.4	31.5	67.1
1946	100.0	1.4	34.7	63.8
1950	100.0	2.9	39.8	57.3
1954	100.0	4.5	37.4	58.1
1958	100.0	4.0	39.4	56.6
1962	100.0	4.3	38.7	56.9
1966	100.0	7.9	39.1	53.0
1970	100.0	8.0	39.9	52.1
1974	100.0	8.5	41.7	49.8
1978 [2]	100.0	8.1	44.1	47.8

[1] Includes intermediate.
[2] Estimated.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Digest of Education Statistics, 1977–78*, and preliminary data.

Chart 4.3
Revenue of Public Elementary and Secondary Schools

Since 1942, State and Federal shares of public school revenues have been increasing, while the local share has decreased by almost 20 percent. In constant dollars, revenue receipts have increased to more than eight times the 1942 level.

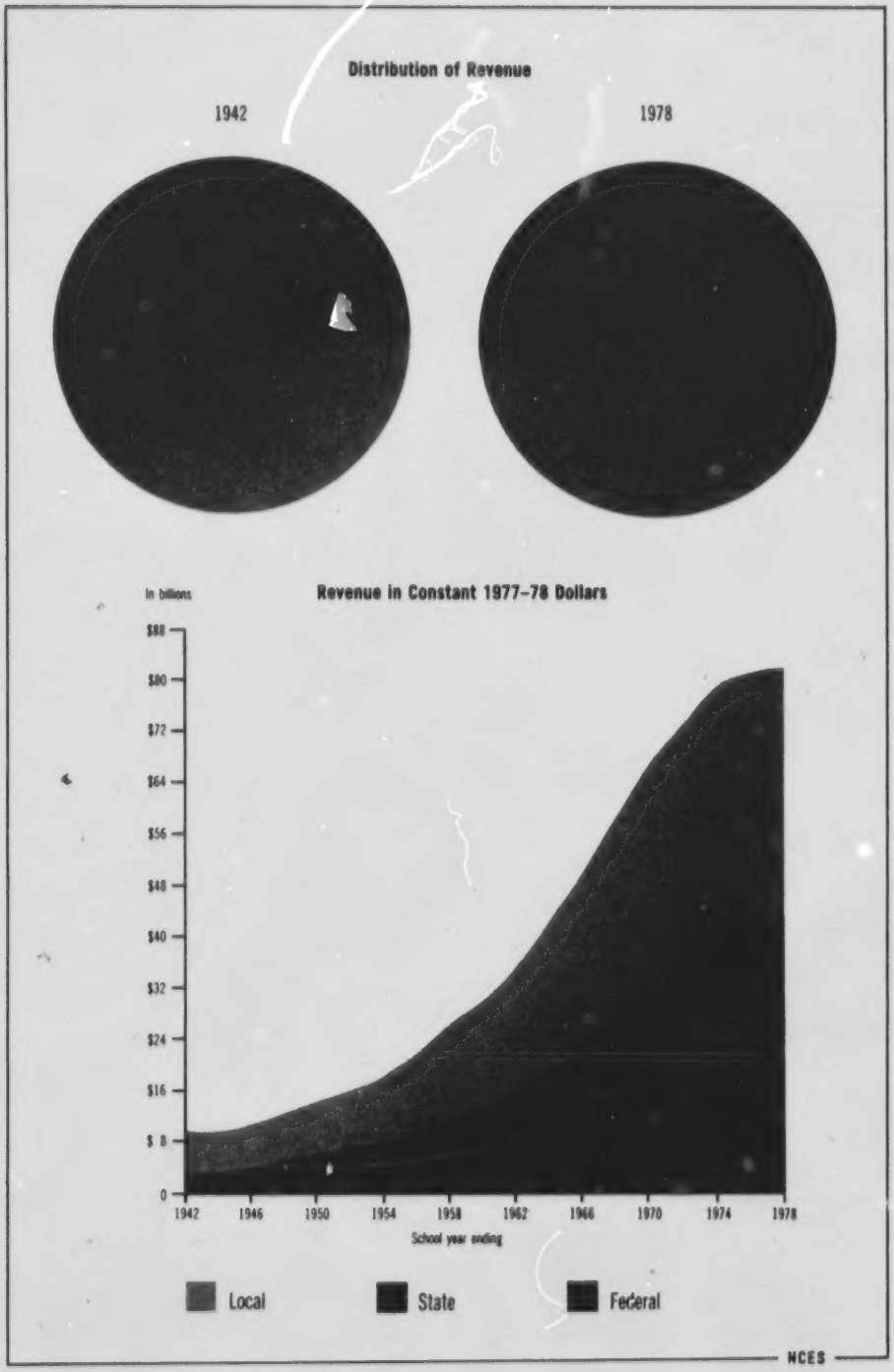

Table 4.4
Federal funds made available for State administered programs under the Elementary and Secondary Education Act (ESEA) and percent change: Fiscal years 1974, 1975, and 1976

Title	Program	Fiscal year			Percent change	
		1974	1975	1976	1974 to 1975	1975 to 1976
		(In thousands)				
I	Handicapped	$85,752	$87,864	$93,517	2.5	6.4
I	Migrants	76,431	90,052	93,100	17.8	3.4
I	State Administration	18,496	19,825	19,995	7.2	.9
I	Neglected and Delinquent	25,498	26,821	27,323	4.8	1.9
I-A	L E A	1,426,200	1,569,435	1,607,789	10.0	2.4
I-B	Special Incentive	17,855	13,861	16,374	−22.4	18.1
I-C	Urban and Rural	47,206	37,615	23,857	−20.3	−36.6
II	Libraries	90,104	94,929	45,793	5.4	−51.8
III	Educational Centers	145,854	119,438	72,599	18.1	−39.2
V-A	Grants to States	32,930	32,937	18,728	.0	−43.1

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, *State Administered Federal Education Funds: Fiscal Years 1974 and 1975; Uses of State Administered Federal Education Funds: Fiscal Years 1975 and 1976.*

Chart 4.4
Federal Funds for State Administered ESEA Programs

In 1976, decreases in Federal funding occurred in 4 of the 10 major State administered ESEA programs. In 5 of the programs, funds in 1976 were below 1974 amounts.

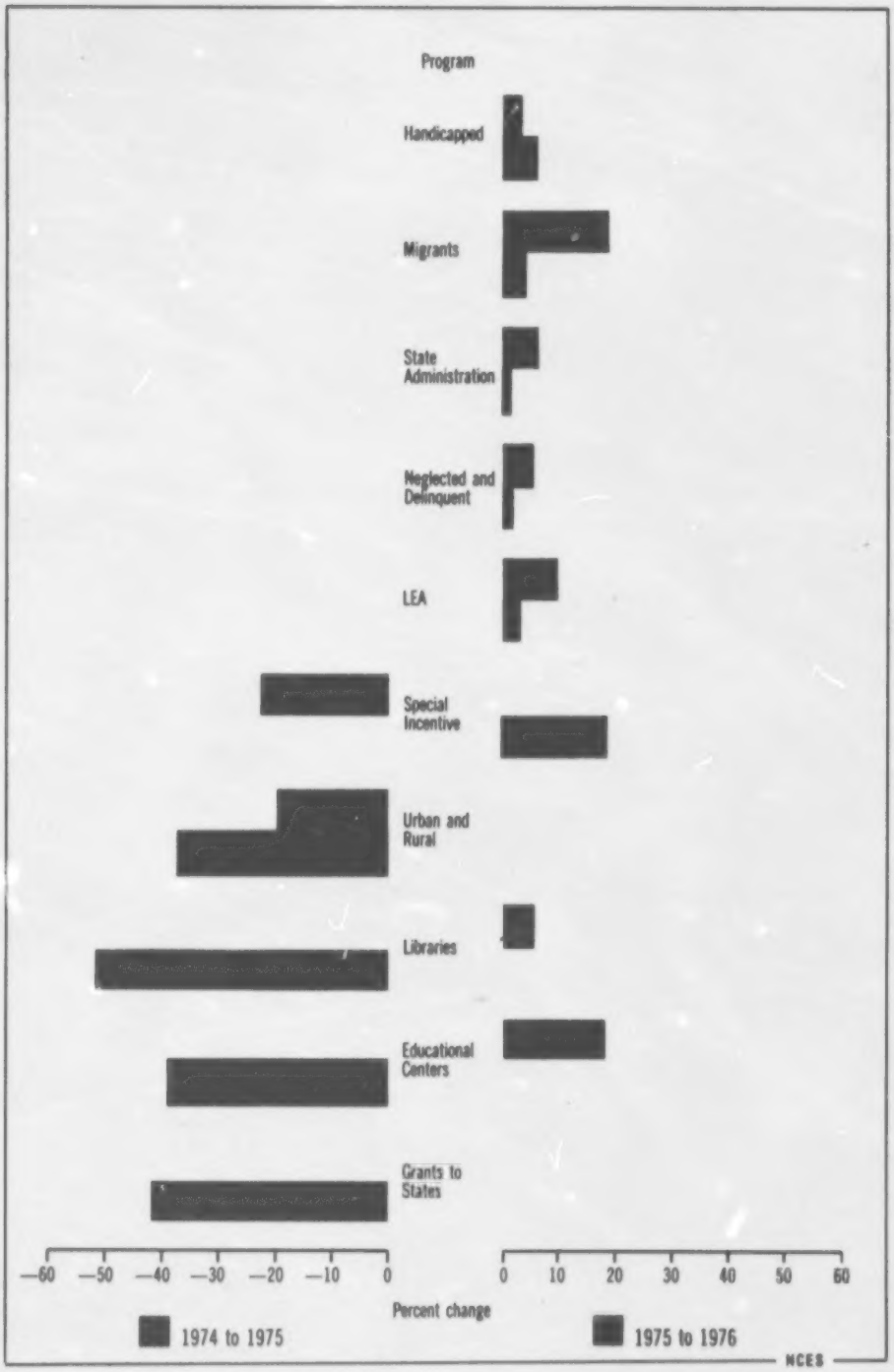

Table 4.5
1976 personal income related to 1976–77 revenue receipts for public schools, by State

	1976 personal income		1976–77 revenue receipts		Revenue as a percent of personal income	
	Total (in millions)	Per-capita	Federal (in millions)	State and local (in millions)	Federal	State and local
United States	$1,373,511	$ 6,399	$6,629	$68,693	0.48	5.00
Alabama	18,714	5,106	145	740	.77	3.95
Alaska	3,979	10,415	25	276	.63	6.94
Arizona	13,166	5,799	87	790	.66	6.00
Arkansas	10,408	4,934	81	442	.78	4.25
California	153,892	7,151	711	7,581	.46	4.93
Colorado	16,633	6,440	71	1,027	.43	6.17
Connecticut	22,929	7,356	53	962	.23	4.20
Delaware	4,092	7,030	24	222	.59	5.43
District of Columbia	5,662	8,067	100	163	1.77	2.88
Florida	50,690	6,020	256	2,248	.51	4.43
Georgia	27,576	5,548	166	1,138	.60	4.13
Hawaii	6,198	7,080	42	262	.68	4.23
Idaho	4,684	5,640	28	214	.60	4.57
Illinois	82,503	7,347	266	3,800	.32	4.61
Indiana	39,990	6,222	100	1,595	.30	4.83
Iowa	17,923	6,245	61	1,000	.34	5.58
Kansas	14,945	6,469	59	646	.39	4.32
Kentucky	18,439	5,379	120	757	.65	4.11
Louisiana	20,762	5,405	208	948	1.00	4.57
Maine	5,741	5,366	30	292	.52	5.09
Maryland	28,514	6,880	130	1,564	.46	5.49
Massachusetts	38,272	6,588	131	2,484	.34	6.49
Michigan	61,485	6,754	240	3,525	.39	5.73
Minnesota	24,515	6,183	104	1,631	.42	6.65
Mississippi	10,633	4,529	121	398	1.13	3.73
Missouri	28,494	5,963	120	1,155	.42	4.05
Montana	4,283	5,689	30	277	.70	6.47
Nebraska	9,450	6,086	38	452	.40	4.78
Nevada	4,368	7,162	16	200	.36	4.58
New Hampshire	4,942	6,010	14	229	.28	4.63
New Jersey	54,152	7,381	182	2,856	.34	5.27
New Mexico	6,217	5,322	89	330	1.43	5.31
New York	126,925	7,019	473	7,481	.37	5.89
North Carolina	29,821	5,453	216	1,253	.72	4.20
North Dakota	3,761	5,846	24	179	.64	4.76
Ohio	68,541	6,412	206	3,025	.30	4.41
Oklahoma	15,788	5,707	102	744	.65	4.71
Oregon	14,580	6,261	78	865	.53	5.93
Pennsylvania	76,385	6,439	361	3,787	.47	4.96
Rhode Island	5,866	6,331	25	256	.39	4.36
South Carolina	14,662	5,147	138	672	.94	4.58
South Dakota	3,512	5,120	29	186	.83	5.30
Tennessee	22,606	5,364	131	918	.58	4.06
Texas	77,463	6,201	483	3,651	.62	4.71
Utah	6,570	5,350	43	394	.65	6.00
Vermont	2,577	5,411	12	161	.47	6.25
Virginia	31,908	6,341	185	1,494	.58	4.68
Washington	24,569	6,802	121	1,202	.49	4.89
West Virginia	9,941	5,460	60	495	.60	4.98
Wisconsin	28,190	6,117	80	1,566	.28	5.56
Wyoming	2,593	6,642	13	170	.50	6.56

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Revenues and Expenditures for Public Elementary and Secondary Education: 1976-1977*, forthcoming; U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, August, 1977.

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Chart 4.5
Revenue as a Percent of Personal Income

Of the 20 States above the United States average in public schools revenue receipts from State and local sources, half are below the average in per capita personal income.

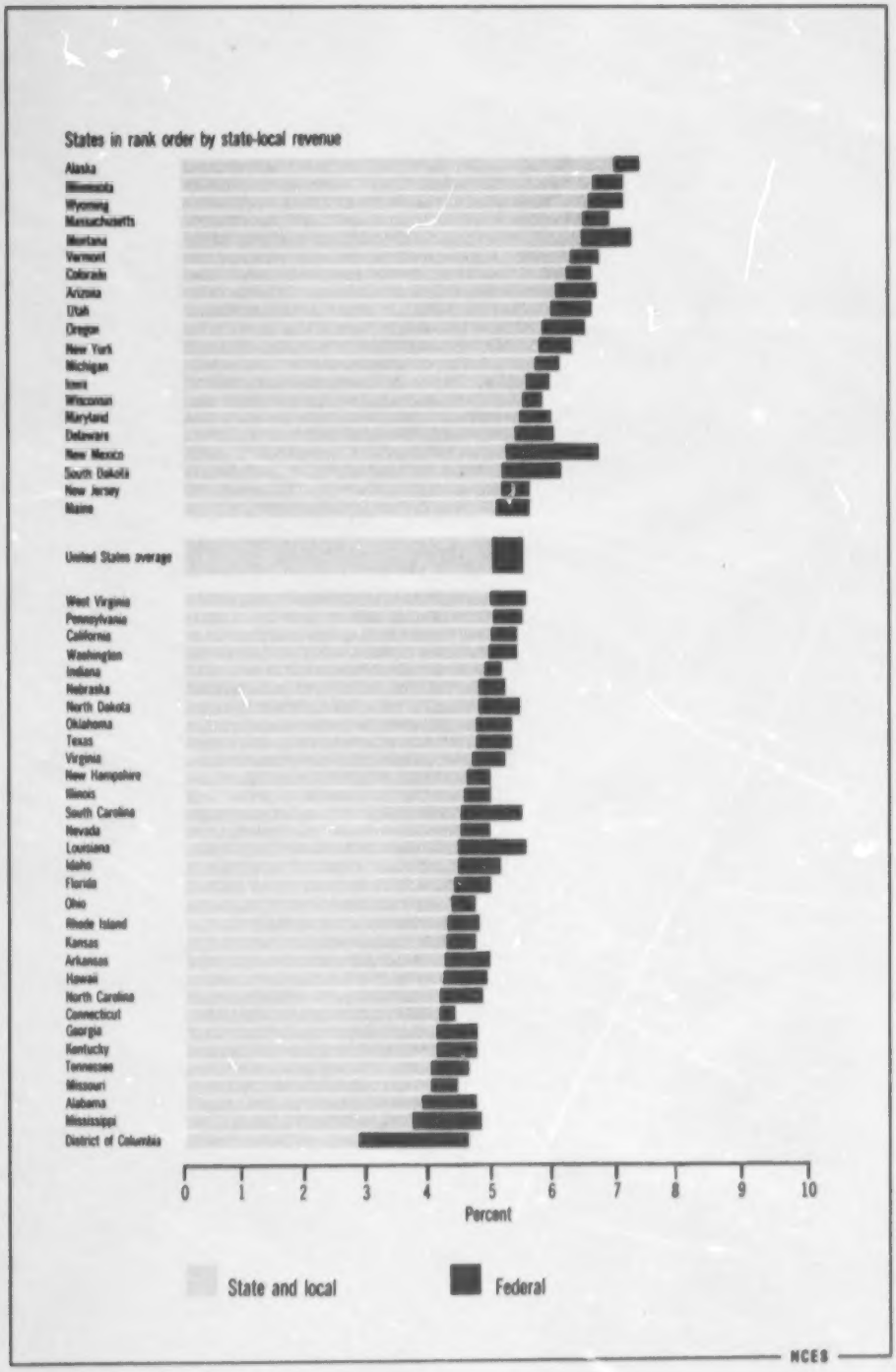

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Table 4.6
Results of school bond elections: Fiscal years 1967 to 1977

Fiscal year	Number of elections			Percent approved based on number	Par value of issues voted on (in millions)		Percent approved based on dollar value
	Total	Defeated	Approved		Total	Approved	
1967...	1,625	543	1,082	66.6	$3,063	$2,119	69.2
1968...	1,750	567	1,183	67.6	3,740	2,338	62.5
1969...	1,341	579	762	56.8	3,913	1,707	43.6
1970...	1,216	569	647	53.2	3,285	1,627	49.5
1971...	1,086	579	507	46.7	3,337	1,381	41.4
1972...	1,153	611	542	47.0	3,102	1,365	44.0
1973...	1,273	554	719	56.5	3,988	2,256	56.6
1974...	1,386	607	799	56.2	4,137	2,193	53.0
1975...	929	499	430	46.3	2,552	1,174	46.0
1976...	770	379	391	50.8	2,104	970	46.1
1977...	858	381	477	55.6	2,400	1,296	54.0

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Bond Sales for Public School Purposes: 1975–76; Bond Sales for Public School Purposes: 1976–77*, forthcoming.

Chart 4.6
School Bond Elections

Despite inflation, the number of school bond elections held and the par value of the issues approved in 1977 were about half those of 1967.

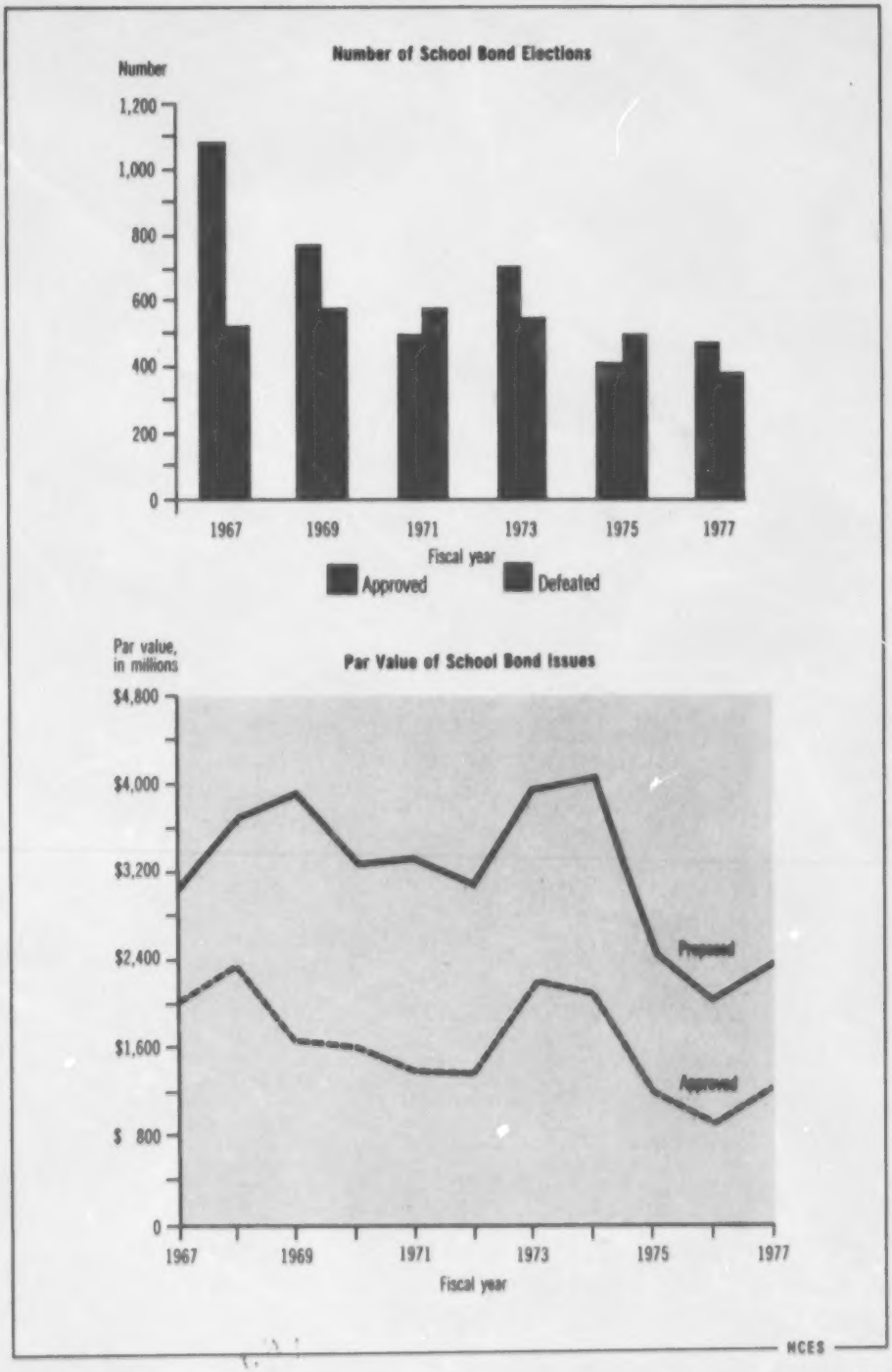

Table 4.7
Current expenditures of public school systems: School years ending 1957 to 1987

School year ending	All programs [1]		Allocated to pupil costs [2]	
	Current dollars	Constant 1976–77 [3] dollars	Current dollars	Constant 1976–77 [3] dollars
	(In billions)			
1957...	9.3	19.7	9.1	19.3
1959...	11.4	23.1	11.2	22.7
1961...	13.6	26.8	13.3	26.2
1963...	16.2	31.2	15.8	30.5
1965...	18.4	34.3	17.9	33.7
1967...	23.2	41.6	22.9	40.8
1969...	29.5	48.7	29.0	47.8
1971...	39.6	58.2	38.7	57.1
1973...	44.9	61.9	44.2	60.7
1975...	57.4	65.3	56.5	64.0
1977...	67.1	67.1	66.2	66.2
	Intermediate alternative projection			
1979...	—	70.9	—	69.5
1981...	—	73.1	—	71.6
1983...	—	75.6	—	74.1
1985...	—	80.0	—	78.4
1987...	—	86.2	—	84.5
	Low alternative projection			
1979...	—	70.9	—	69.5
1981...	—	73.1	—	71.6
1983...	—	75.2	—	73.7
1985...	—	77.8	—	76.3
1987...	—	81.8	—	80.2
	High alternative projection			
1979...	—	70.9	—	69.5
1981...	—	73.1	—	71.6
1983...	—	76.4	—	74.9
1985...	—	82.9	—	81.2
1987...	—	92.3	—	90.5

[1] Includes current expenditures for summer schools, adult education, and community colleges operated by school districts, in addition to expenditures allocated to pupil cost.
[2] Includes only the current expenditures for public day schools allocable to pupil costs; excludes the other expenditures shown in footnote 1.
[3] Based on the Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor.

NOTE: Projections based on actual data prior to 1977.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1986–87*, and preliminary data.

Chart 4.7
Current Expenditures of Public School Systems

Current expenditures of public school systems have more than tripled since 1957, even when adjusted for inflation. By 1987 they are expected to be at least four times the 1957 expenditures.

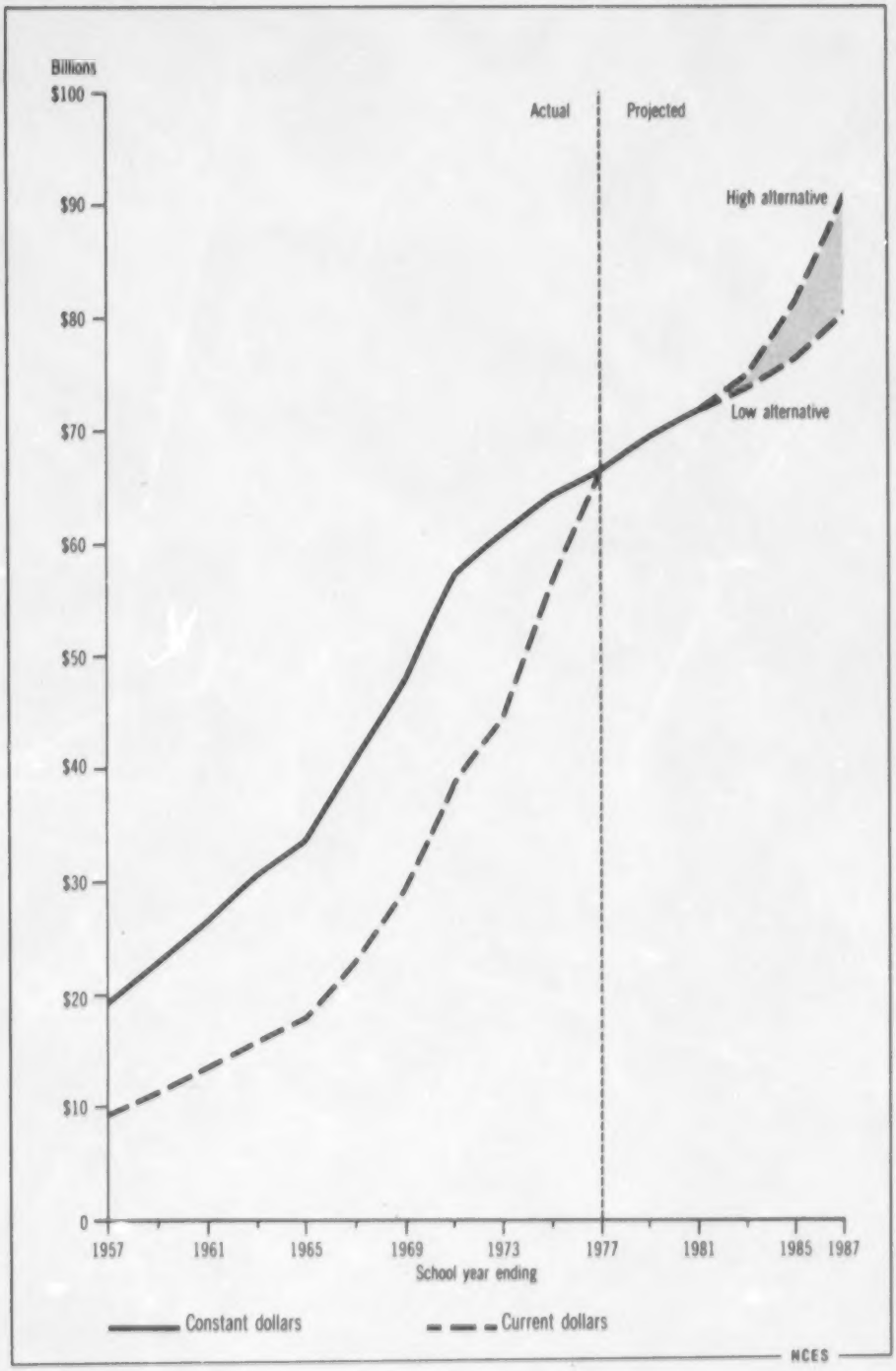

Table 4.8
Expenditures of public elementary and secondary schools, by financial character of school districts and for major functions: School year ending 1977

Financial character of school districts[1]	Total	Major function					
		Instruction	Plant operation and maintenance	Fixed charges	Trans-portation	Adminis-tration	Attendance and health
				(Amount, in thousands)			
50 states and D. C.....	$63,046,059	$41,901,185	$ 7,330,812	$8,105,812	$2,502,203	$2,612,697	$593,400
Fiscally dependent....	21,012,913	13,827,803	2,348,641	2,867,885	939,833	774,292	234,861
Fiscally independent...	42,033,146	28,073,382	4,982,171	5,237,880	1,562,370	1,838,405	358,539
				Percentage distribution			
50 states and D. C.....	100.0	66.5	11.6	12.9	3.9	4.1	.9
Fiscally dependent....	100.0	65.8	11.2	13.6	4.5	3.7	1.1
Fiscally independent...	100.0	66.8	11.8	12.4	3.7	4.4	.9

[1] Fiscally dependent: The local school board is dependent upon other local government bodies for generating revenue and determining budgetary priorities.
Fiscally independent: The local school board exercises autonomous taxing and budgeting power.

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 4.8
School Expenditures by Major Function

Expenditures for instruction constitute the largest portion of total expenditures. There is very little difference between the distribution of expenditures in districts which exercise autonomous budgeting power and those dependent upon other local government bodies.

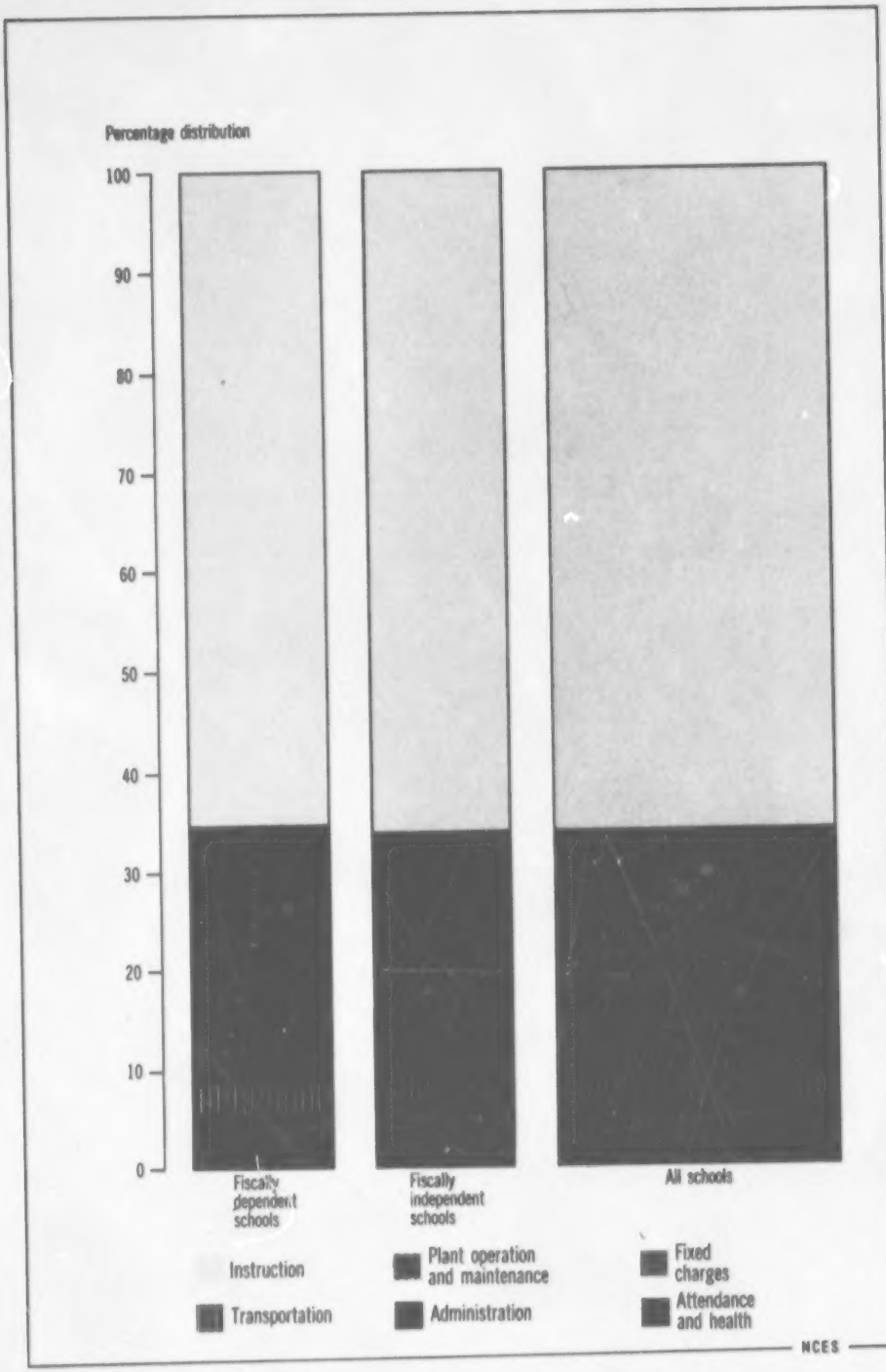

Table 4.9
Current expenditures for salaries of classroom teachers in regular public elementary and secondary schools: School years ending 1966 to 1987

School year ending	Number of classroom teachers (in thousands)	Salaries of classroom teachers			
		Average annual salary		Total (in billions)	
		Current dollars	Constant 1976–77 dollars	Current dollars	Constant 1976–77 dollars
1966	1,710	$ 6,732	$12,372	$11.5	$21.2
1967	1,789	7,195	12,830	12.9	23.0
1968	1,864	7,705	13,292	14.4	24.8
1969	1,936	8,260	13,595	16.0	26.3
1970	2,023	8,944	13,897	18.1	28.1
1971	2,055	9,695	14,325	19.9	29.4
1972	2,070	10,342	14,750	21.4	30.5
1973	2,103	10,530	14,435	22.1	30.4
1974	2,155	11,223	14,122	24.2	30.4
1975	2,165	12,720	14,410	27.5	31.2
1976	2,196	13,895	14,700	30.5	32.3
			Projected		
1977	2,193	14,995	14,995	32.9	32.9
1978	2,178	—	15,285	—	33.3
1979	2,157	—	15,575	—	33.6
1980	2,132	—	15,865	—	33.8
1981	2,104	—	16,155	—	34.0
1982	2,088	—	16,445	—	34.3
1983	2,080	—	16,740	—	34.8
1984	2,080	—	17,030	—	35.4
1985	2,103	—	17,320	—	36.4
1986	2,139	—	17,610	—	37.7
1987	2,180	—	17,900	—	39.0

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1986–87.*

Chart 4.9
Average Teacher Salaries

Adjusted for inflation, the average annual salary for classroom teachers dropped in 1973. Despite later increases, by 1976, the average was still not up to the 1972 level.

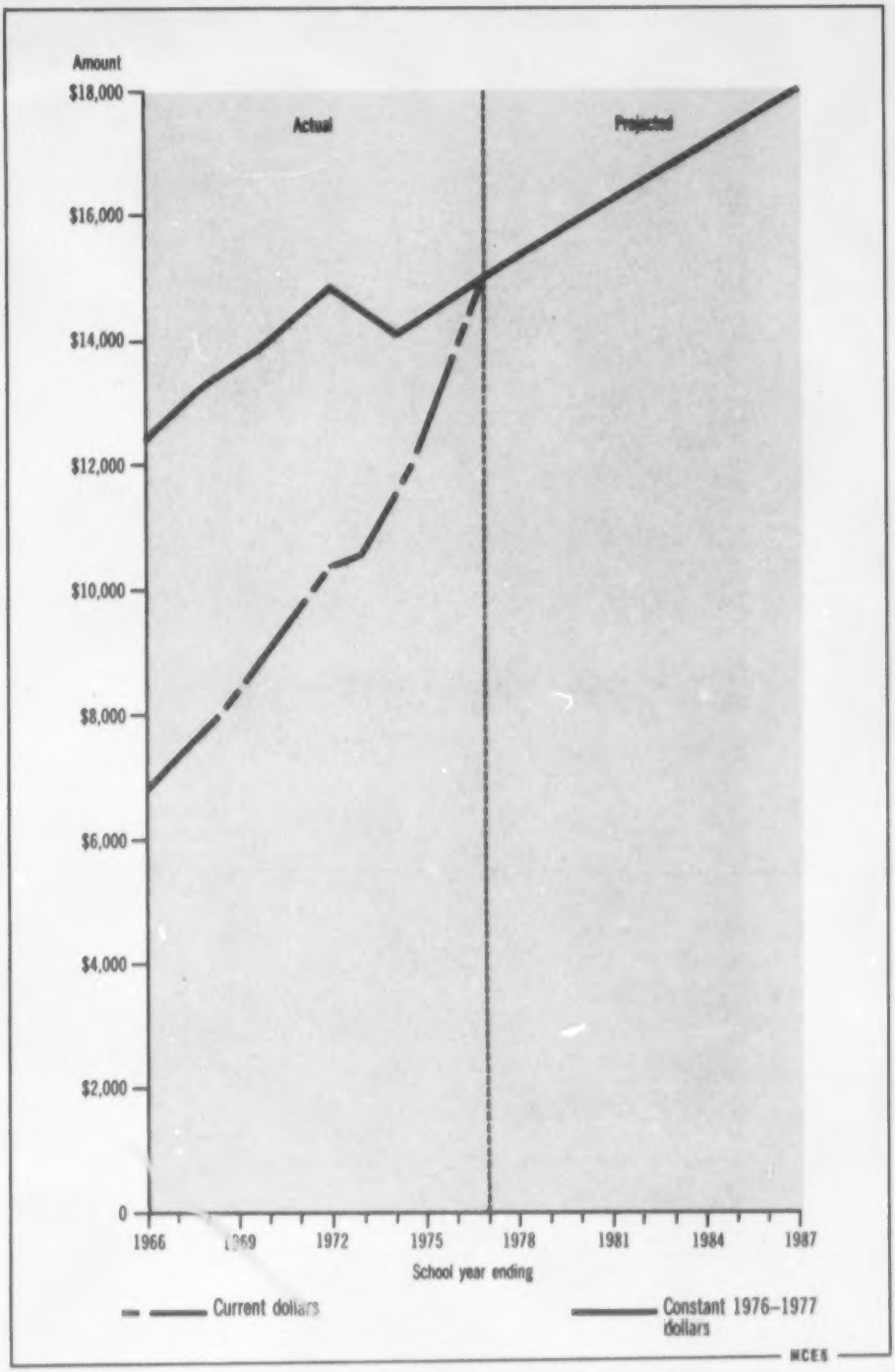

Table 4.10
Number and percent of public school pupils transported at public expense and current expenditures for transportation: School year ending 1940 to 1976

School year ending	All public school pupils	Pupils transported at public expense		Expenditure of public funds	
		Number	Percent of total	Total, excluding capital outlay (in thousands)	Average cost per pupil transported
1940.....	25,433,542	4,144,161	16.3	$ 83,283	$ 20.10
1944.....	23,266,616	4,512,412	19.4	107,754	23.88
1948.....	23,944,532	5,854,041	24.4	176,265	30.11
1952.....	26,562,664	7,697,130	29.0	268,827	34.93
1956.....	27,740,149	9,695,819	35.0	353,972	36.51
1960.....	32,477,440	12,225,142	37.6	486,338	39.78
1964.....	37,405,058	14,475,778	38.7	673,845	46.55
1968.....	40,827,965	17,130,873	42.0	981,006	57.27
1972.....	42,254,272	19,474,355	46.1	1,507,830	77.43
1976.....	41,274,308	22,757,316	55.1	2,371,814	104.22

NOTE: Data on pupil transportation through 1952 are based upon enrollment; data for 1956 and subsequent years are based upon average daily attendance.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Digest of Education Statistics, 1977–78.*

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Chart 4.10
Public School Pupils Transported at Public Expense

In 1976, more than half of all public school pupils were being transported at public expense. Per-pupil expenditures for transportation have risen sharply since 1968.

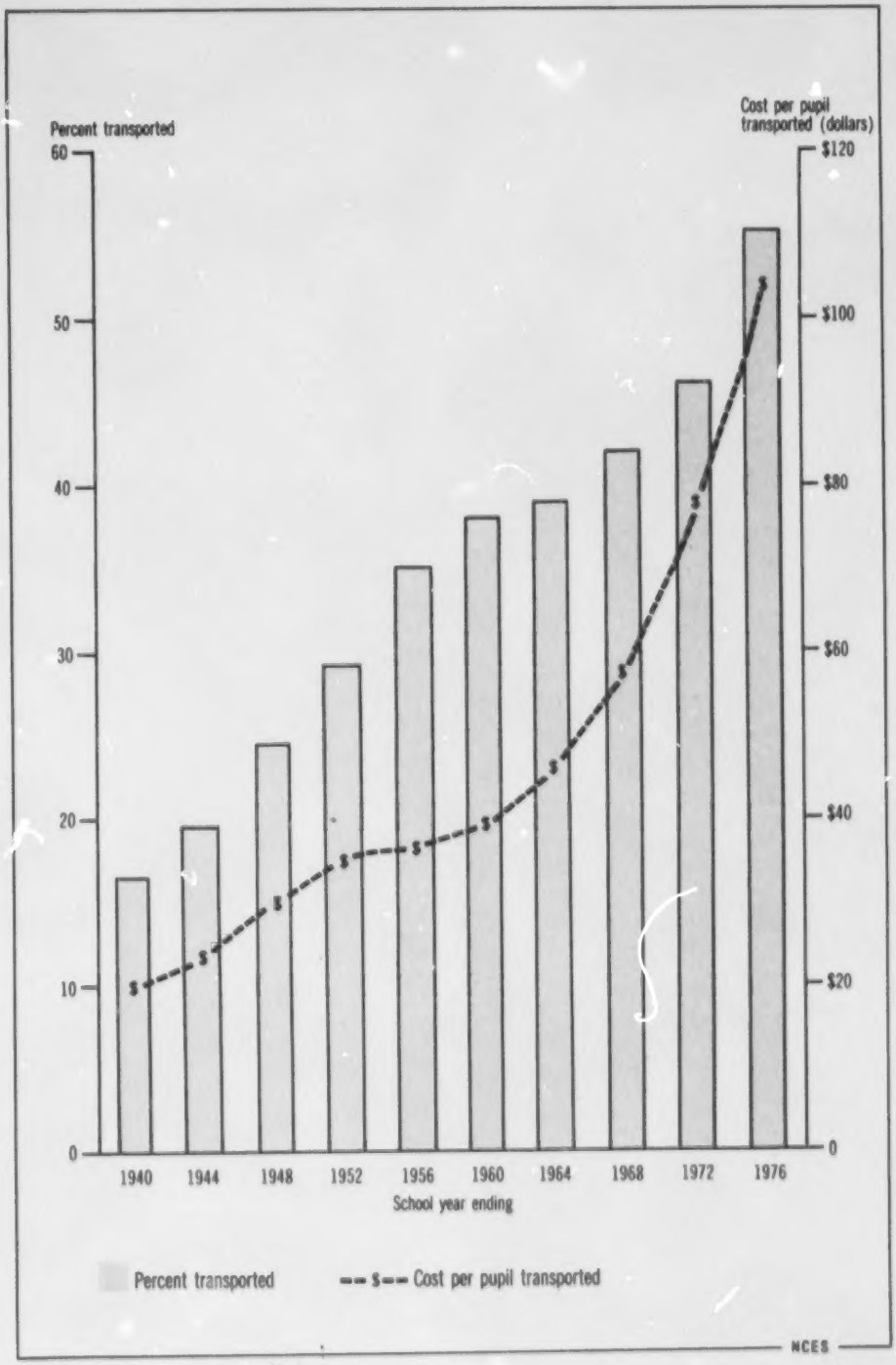

Table 4.11
Public elementary and secondary school average daily attendance and current expenditures: School year ending 1970 and 1977

State	Average daily attendance (ADA)			Current expenditures (constant 1976–77 dollars)		
	1970	1977	Percent change	1970 (Dollars, in thousands)	1977	Percent change
United States	41,934,376	40,831,630	−2.6	$54,155,489	$66,896,735	23.5
Alabama	777,123	707,332	−9.0	660,211	869,748	31.7
Alaska	72,489	83,198	14.8	126,866	281,317	121.7
Arizona	391,526	468,384	19.6	438,080	735,562	67.9
Arkansas	414,159	472,385	14.1	365,271	466,185	27.6
California	4,418,423	4,501,948	1.9	6,081,503	7,509,475	23.5
Colorado	500,388	526,905	5.3	680,468	871,388	28.1
Connecticut	618,881	584,805	−5.5	919,601	1,017,775	10.7
Delaware	120,819	111,269	7.9	171,196	213,513	24.7
District of Columbia	138,600	105,203	−24.1	225,977	259,240	14.7
Florida	1,312,693	1,446,745	10.2	1,520,392	2,011,723	32.3
Georgia	1,019,427	1,000,732	−1.8	961,076	1,300,517	35.3
Hawaii	168,140	159,936	−4.9	222,058	293,654	32.2
Idaho	170,920	186,886	9.3	160,497	220,694	37.5
Illinois	2,084,844	1,992,575	−4.4	3,005,128	3,508,470	16.7
Indiana	1,111,043	1,055,230	−5.0	1,280,076	1,435,803	12.2
Iowa	624,403	568,342	−9.0	872,379	952,610	9.2
Kansas	470,296	414,580	−11.8	564,235	639,317	13.3
Kentucky	647,970	636,910	−1.7	550,965	719,821	30.6
Louisiana	776,555	782,535	0.8	790,594	1,006,845	27.4
Maine	225,146	226,411	0.6	224,169	294,991	31.6
Maryland	785,989	755,579	−3.9	1,131,087	1,436,175	27.0
Massachusetts	1,056,207	1,046,854	−0.9	1,424,154	2,170,829	52.4
Michigan	1,991,235	1,864,145	−6.4	2,867,059	3,380,879	17.9
Minnesota	864,595	809,613	−6.4	1,228,890	1,470,991	19.7
Mississippi	524,624	476,225	−9.2	447,839	536,849	19.9
Missouri	906,132	849,443	−6.3	1,071,316	1,167,463	9.0
Montana	162,664	155,453	−4.4	197,606	276,664	40.0
Nebraska	314,516	293,808	−6.6	363,696	476,129	30.9
Nevada	113,421	129,947	14.6	137,215	188,334	37.3
New Hampshire	140,203	160,499	14.5	157,117	226,714	44.3
New Jersey	1,322,124	1,279,498	−3.2	2,110,197	2,753,830	30.5
New Mexico	259,997	260,226	0.1	287,500	368,023	28.0
New York	3,009,192	2,833,758	−5.8	6,494,182	7,074,875	8.9
North Carolina	1,101,295	1,101,891	0.2	1,052,452	1,373,365	30.5
North Dakota	1,141,961	124,465	−12.3	155,378	180,193	16.0
Ohio	2,246,282	2,058,284	−8.4	2,594,465	2,952,327	13.8
Oklahoma	560,993	558,354	−0.5	530,326	737,118	39.0
Oregon	436,736	426,586	−2.3	630,807	819,788	30.0
Pennsylvania	2,169,225	1,999,727	−7.8	3,068,194	3,708,810	21.0
Rhode Island	163,205	156,503	−4.1	227,855	281,889	23.7
South Carolina	600,292	563,433	−6.1	587,534	682,387	16.1
South Dakota	158,543	140,573	−11.3	170,736	188,066	10.2
Tennessee	836,010	821,698	−1.7	749,625	986,698	31.6
Texas	2,432,420	2,566,545	5.5	2,379,458	3,512,137	47.6
Utah	287,405	284,172	−1.1	287,487	366,494	27.5
Vermont	97,772	96,851	−0.9	122,810	149,017	21.3
Virginia	955,580	1,014,801	1.9	1,122,919	1,467,142	30.7
Washington	764,735	723,418	−5.4	1,089,571	1,213,890	11.4
West Virginia	372,278	368,588	−1.0	394,984	501,084	26.9
Wisconsin	880,609	839,356	−4.7	1,224,068	1,408,191	15.1
Wyoming	81,293	84,026	3.4	108,435	149,880	38.2

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of State School Systems 1969-70; Revenues and Expenditures for Public Elementary and Secondary Education 1976-77*, forthcoming.

Chart 4.11
Change in Expenditures and Average Daily Attendance by State: 1970 to 1977

Among the States, there is almost no association between changes in enrollment and changes in expenditures. Of the 15 States below the national average in percent change in enrollment, 7 are above the average in percent change in expenditures.

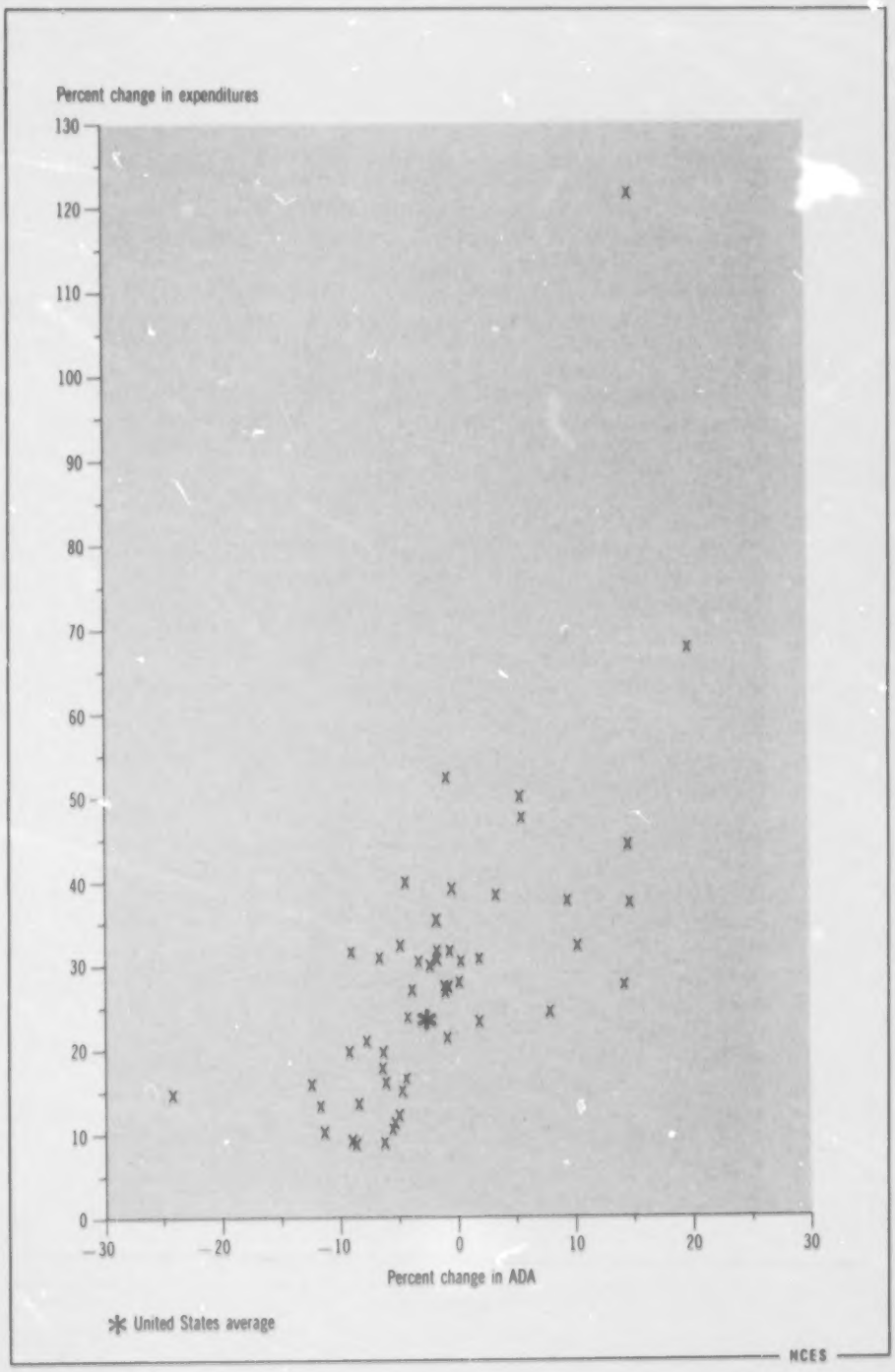

Table 4.12
Percentage distribution of school districts, by current expenditure per pupil, and by State: School year ending 1977

State	Under $800	$800 to $999	$1,000 to $1,199	$1,200 to $1,399	$1,400 to $1,599	$1,600 to $1,799	$1,800 to $1,999	$2,000 to $2,299	$2,300 to $2,599	$2,600 and over	Median expenditure
United States	5.6	15.5	20.1	20.4	15.4	9.0	5.3	3.7	1.8	3.1	$1,278
Alabama	64.6	33.1	1.6	—	.8	—	—	—	—	—	769
Alaska	—	—	—	—	—	—	—	6.5	12.9	80.6	3,049
Arizona	2.4	8.0	23.1	30.2	11.8	8.5	7.5	2.8	1.9	3.8	1,293
Arkansas	42.9	39.2	12.4	3.2	1.8	.3	.3	—	—	—	824
California	.8	1.8	10.7	29.3	25.4	14.5	6.3	5.8	2.0	3.5	1,444
Colorado	—	—	12.7	24.3	21.0	15.5	7.7	5.0	3.9	9.9	1,493
Connecticut	.6	2.4	12.1	32.1	26.7	16.4	6.7	3.0	—	—	1,413
Delaware	—	3.8	30.8	23.1	26.9	7.7	—	7.7	—	—	1,335
District of Columbia	—	—	—	—	—	—	100.0	—	—	—	1,950
Florida	—	—	38.8	47.8	10.4	1.5	—	1.5	—	—	1,240
Georgia	19.7	59.0	15.4	5.3	.5	—	—	—	—	—	882
Hawaii	—	—	—	—	100.0	—	—	—	—	—	1,591
Idaho	.9	32.2	35.7	15.7	7.0	3.5	3.5	.9	.9	—	1,076
Illinois	.4	7.4	29.4	30.0	15.6	7.9	4.1	3.0	1.1	1.1	1,275
Indiana	2.0	44.1	42.8	8.6	1.6	1.0	—	—	—	—	1,015
Iowa	—	—	.2	24.2	54.5	17.3	2.4	1.1	—	.2	1,483
Kansas	.3	4.2	20.5	32.6	22.1	9.4	5.9	2.6	1.6	.7	1,356
Kentucky	39.8	54.7	3.9	1.1	.6	—	—	—	—	—	821
Louisiana	1.5	45.5	45.5	6.1	1.5	—	—	—	—	—	1,012
Maine	10.4	27.8	42.5	12.7	1.4	1.4	.9	.5	.5	1.9	1,071
Maryland	—	—	4.2	33.3	29.2	29.2	—	4.2	—	—	1,449
Massachusetts	—	.3	5.0	22.4	26.6	20.1	11.6	6.3	2.1	5.5	1,560
Michigan	3.7	2.6	28.3	40.9	14.3	5.6	3.1	1.0	.2	.3	1,257
Minnesota	—	.5	7.5	41.9	35.8	8.9	3.2	1.1	.7	.5	1,399
Mississippi	36.2	55.9	7.2	.7	—	—	—	—	—	—	840
Missouri	4.6	37.1	41.2	10.4	4.1	1.6	—	.2	.4	.4	1,035
Montana	3.7	8.7	16.2	16.9	13.8	8.2	9.8	8.7	5.9	8.2	1,414
Nebraska	7.6	12.3	15.6	14.5	14.3	10.5	8.2	5.6	3.8	7.6	1,481
Nevada	—	—	5.9	35.3	35.3	5.9	5.9	—	—	11.8	1,409
New Hampshire	7.6	31.8	31.8	14.6	8.9	2.5	1.3	—	.6	.6	1,053
New Jersey	.2	1.2	8.9	21.0	25.4	23.2	8.4	8.4	2.2	1.0	1,531
New Mexico	—	—	17.0	25.0	23.9	9.1	5.7	12.5	4.5	2.3	1,434
New York	—	.1	—	.1	5.4	24.2	23.2	17.2	9.4	20.4	1,966
North Carolina	—	35.6	54.8	7.5	2.1	—	—	—	—	—	1,029
North Dakota	2.2	4.4	17.2	31.6	20.9	12.2	5.3	3.8	1.3	1.3	1,361
Ohio	.3	32.0	34.4	15.8	7.3	5.2	2.4	1.5	.3	.8	1,083
Oklahoma	7.2	46.7	23.3	10.0	5.6	1.9	2.0	1.1	1.7	.6	978
Oregon	.3	1.5	6.6	18.6	26.4	17.7	11.4	9.0	4.2	4.2	1,542
Pennsylvania	.7	2.5	28.2	40.6	15.3	7.2	3.2	1.4	.7	.2	1,273
Rhode Island	—	—	7.5	25.0	35.0	17.5	7.5	5.0	2.5	—	1,474
South Carolina	39.1	53.3	6.5	1.1	—	—	—	—	—	—	833
South Dakota	2.7	4.8	43.9	29.9	11.8	3.2	1.6	1.6	.5	—	1,186
Tennessee	61.9	27.2	6.8	3.4	—	—	—	—	—	.7	766
Texas	5.3	28.6	29.0	14.9	7.6	3.9	3.8	2.7	1.3	3.0	1,094
Utah	—	7.5	47.5	27.5	2.5	7.5	5.0	2.5	—	—	1,162
Vermont	4.4	17.7	34.1	20.5	12.4	6.0	3.2	1.2	.4	—	1,130
Virginia	1.5	42.9	39.1	11.3	3.0	—	—	1.5	.8	—	1,033
Washington	1.0	2.6	18.6	24.7	19.2	9.9	10.9	5.1	2.6	5.4	1,414
West Virginia	—	10.6	61.8	25.5	1.8	—	—	—	—	—	1,089
Wisconsin	—	—	4.6	34.4	40.6	13.8	5.7	.5	.2	.2	1,447
Wyoming	—	—	—	20.4	28.6	18.4	10.2	14.3	2.0	6.1	1,601

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, preliminary data.

Chart 4.12
Distribution of School Districts in the United States by Expenditure per Pupil

The distribution of school districts in the United States by per-pupil expenditures ranges from 5.6 percent spending under $800 to 3.1 percent spending $2,600 or more.

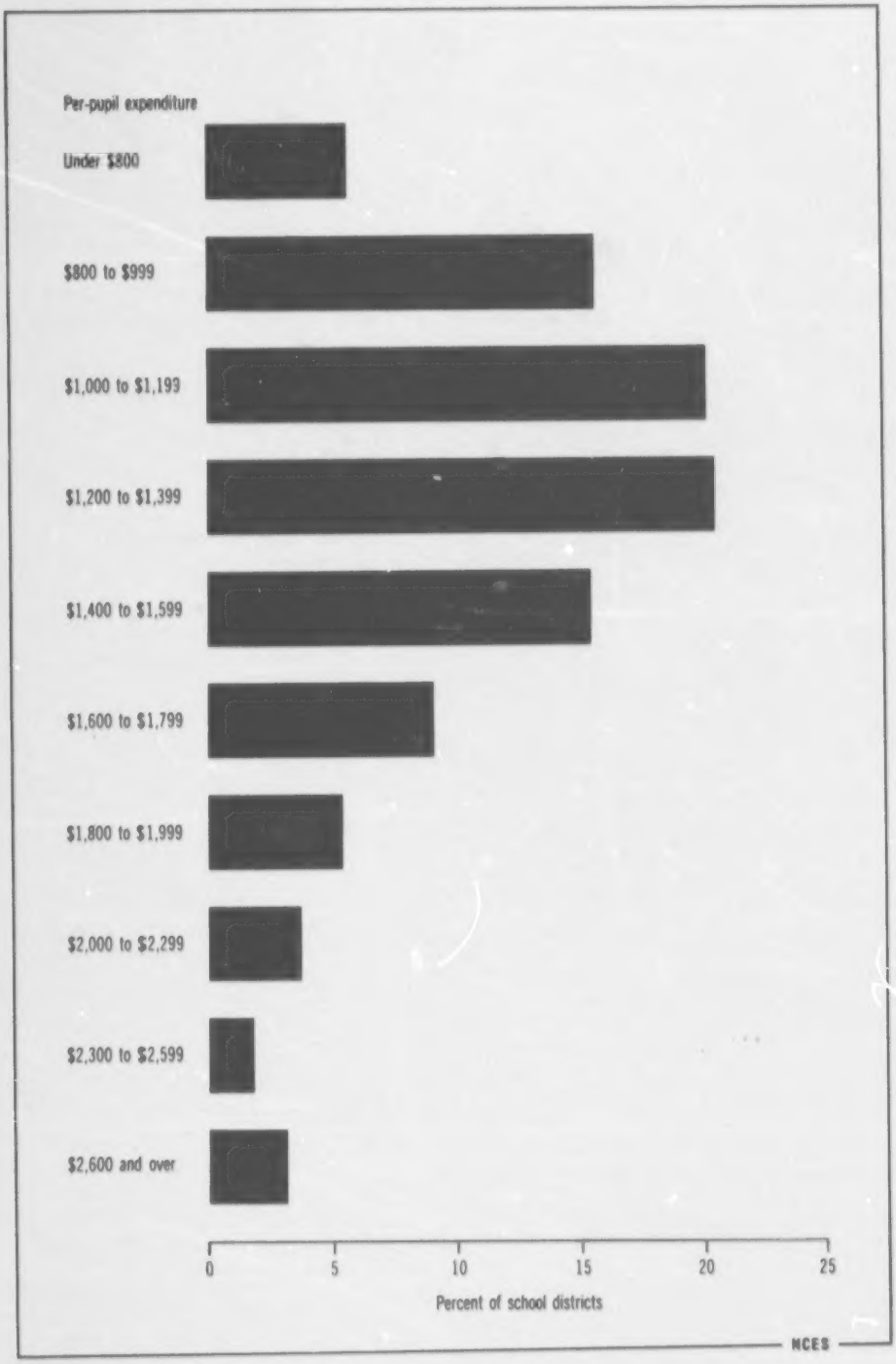

Table 4.13
Within-State disparities in current per-pupil expenditures in 1977 and change from 1970

States ranked by degree of disparity from high to low	1977 disparity index (95:5 percentile ratio)[1]	1977 disparity index as a percent of 1970 disparity index
Massachusetts	2.22	113
Nebraska	1.97	121
South Dakota	1.96	115
New Hampshire	1.92	102
Maine	1.91	122
Ohio	1.88	106
Delaware	1.88	91
New Jersey	1.85	96
Illinois	1.84	90
Georgia	1.83	99
Vermont	1.83	60
New York	1.81	110
Tennessee	1.81	94
Connecticut	1.77	80
Virginia	1.76	107
Washington	1.75	105
Arkansas	1.75	91
Minnesota	1.73	118
Kentucky	1.73	101
Missouri	1.72	93
Alaska	1.71	132
Wyoming	1.71	109
Pennsylvania	1.69	108
Texas	1.69	89
Michigan	1.68	93
Colorado	1.65	94
Oklahoma	1.64	99
South Carolina	1.64	98
North Dakota	1.61	83
Mississippi	1.59	93
California	1.59	86
Arizona	1.58	84
Kansas	1.56	84
Maryland	1.55	97
Rhode Island	1.51	86
Indiana	1.50	94
Idaho	1.49	101
New Mexico	1.49	99
Wisconsin	1.48	93
Louisiana	1.42	107
North Carolina	1.41	94
Oregon	1.41	94
Alabama	1.38	97
Florida	1.37	90
Utah	1.29	102
West Virginia	1.26	85
Iowa	1.23	68
New Hampshire	1.18	98
Hawaii	1.00	100
Montana	NA	NA

NA: Not available.

[1] The ratio of expenditures at the 95th percentile of students to expenditures at the 5th percentile of students is used as an index of expenditure disparities at the extremes. The exclusion of the highest and the lowest 5 percent is intended to allow for circumstances that might justify some extreme unevenness in the distribution of resources. For example, a value of 3.5 means that systems at the 95th percentile spend three and one-half times the expenditures per-pupil as those at the 5th percentile.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, unpublished tabulations.

Chart 4.13
Within-State Disparities in Per-Pupil Expenditures

From 1970 to 1977, 28 States reduced disparities between rich and poor school systems.

Table 4.14
Status of States in enacting reforms of elementary and secondary education finance structures, during the 1970's, by type of equalization formula enacted

Non-reform States	Reform States		
	High-level foundation program [1]	Augmented foundation program [2]	District power equalization [3]
Alabama	Arizona	California	Colorado
Alaska	Florida	Maine	Connecticut
Arkansas	Indiana	Missouri	Illinois
Delaware	Iowa	Montana	Kansas
Georgia	Minnesota	South Dakota	Michigan
Hawaii	New Mexico	Texas	New Jersey
Idaho	North Dakota		Ohio
Kentucky	South Carolina		Wisconsin
Louisiana	Tennessee		
Maryland	Utah		
Massachusetts	Washington		
Mississippi			
Nebraska			
Nevada			
New Hampshire			
New York			
North Carolina			
Oklahoma			
Oregon			
Pennsylvania			
Rhode Island			
Vermont			
Virginia			
West Virginia			
Wyoming			

[1] State equalization aid program that typically guarantees a certain foundation level of expenditure for each student, together with a minimum tax rate that each school district must levy for education purposes. The difference between what a local school district raises at the minimum tax rate and the foundation expenditure is made up in State aid, thus enhancing the State's fiscal role in education. A high level foundation program usually requires an expenditure per pupil at or above the previous year's State average.
[2] Foundation program augmented by guaranteed tax base or guaranteed yield programs for a district choosing to spend above the foundation level (see footnote 3).
[3] State equalization aid program that provides equal revenues from State and local sources for equal tax rates. These programs, given different names in many States incuding guaranteed tax base and guaranteed yield programs, focus on the district's ability to support education, thus enhancing the local fiscal role in education decision making.

SOURCE: Education Commission of the States, *School Finance Reform in the States: 1979*, 1979.

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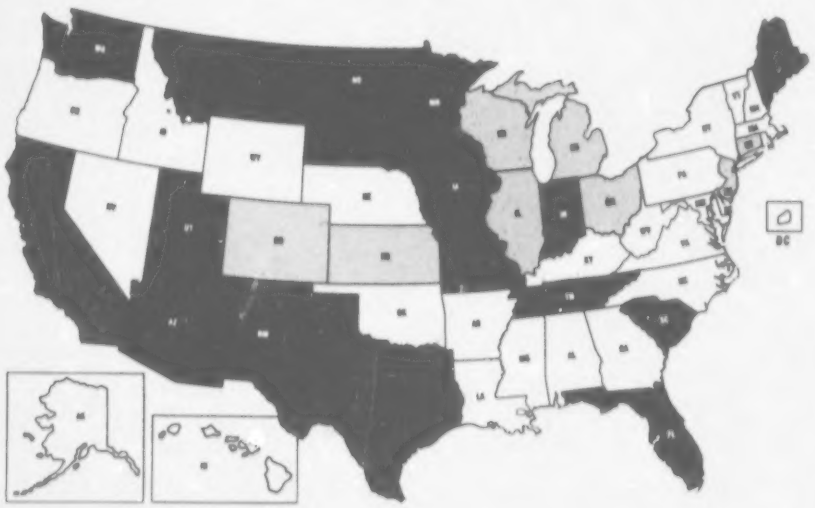
Chart 4.14
States Enacting Equalization Formulas During the 1970's

During the 1970's, 25 states reformed their elementary and secondary education finance structures to distribute more State aid to school districts low in property wealth.



Equalization formulas:
High-level foundation
Augmented foundation
District power equalization

NCES

Chapter 5
Outcomes of Education

Although descriptive statistics about the educational system's resources are readily available, measures of the system's output in terms of what is learned and what benefits accrue from this learning are more difficult to document. This chapter does not fill this gap, but it does attempt to go beyond numerical counts and suggest the effect that education has on its participants. It is divided into two sections—the first presents various academic outcomes and the second examines several social and economic outcomes associated with educational attainment.

This chapter focuses on the outcomes of schooling as they affect individuals and deals only peripherally with the effects that education has on the whole of society. It should be remembered that education has benefits which go beyond its effects on the individual participant. That society benefits from an educated populace underlies the tenet that education should be a societal responsibility.

Although the education system bears the primary responsibility for schooling, it cannot take full credit or blame, for the results. As discussed in Chapter 1, the education system shares its responsibilities with the family and the economic and political institutions of this country. It is difficult to separate the outcomes attributable solely to schooling from the larger societal effects.

Educational Outcomes

The impact of school and its interaction with the social environment are apparent in national assessments of student performance. The National Assessment of Educational Progress (NAEP) provides a comprehensive, comparable data base of information on trends in performance of young Americans. Analyses of recent assessments in science, art, and math provide some indication of the learning that occurs inside and outside the classroom.

From the base year 1970 assessment, achievement on the physical science exercises declined in 1973 and declined still further in 1977 across all age groups (entry 5.1). The decline in physical science achievement was sharpest among the 17-year-olds. On the biological science exercises, scores declined in 1973, but rose in 1977 among the younger age groups.

This downward trend in performance may reflect a de-emphasis during the 1970's in science education, particularly in the secondary schools. Since the first assessment measured achievement at the close of a period of intense interest in the sciences, the decline in subsequent assessments may have been somewhat inevitable. Science did not receive the same coverage in or out of the classroom as it had in the previous period. At the elementary school level, an emphasis on basic education may have diminished interest in the science programs. At the secondary school level, the decline may have been further aggravated when many schools made advanced physical science courses elective.

Just as declines in science achievement may reflect a de-emphasizing of science not only within but also outside the classroom, assessments in other areas show the effects of learning beyond the school. The effects of the student's environment on performance are particularly evident in the art assessment (entry 5.2). While significant differences were apparent across all age groups according to whether or not art was taught in the schools, substantial differences were also evident by parental education and community type—factors outside the control of the schools.

Higher parental education was positively associated with higher student achievement on both art knowledge and art appreciation exercises. As the student progresses through school, some diminishing of parental effects might be expected. However, in the art assessment, the influence of parental education did not appear to weaken from the youngest to the oldest age group.

Type as well as size of community was also related to students' performance. Although both groups tested were from metropolitan areas, students from low income communities scored far below, and those from high income communities well above, the national mean on the art knowledge assessment. If one considers that metropolitan areas may offer similar opportunities for learning about art to wealthy and poor students alike, the effects of economic background are particularly revealing.

As previously indicated, secondary school students did not devote considerable time to homework nor did they regard their homework as difficult. Television viewing occupied at least as much time as homework. Cross-tabulating the time spent on both homework and television viewing with math achievement further illustrates the interaction between the school and those influences beyond the school's control (entry 5.3). Compared to other 17-year olds, those students who spent more than 10 hours weekly on homework and less than 1 hour nightly watching television scored appreciably higher on the math assessment. Students who spent 5 or more hours nightly watching television scored significantly below the national mean.

For the individual, the high school diploma provides a conventional measure of educational success. For society, the rate at which young adults graduate from high school serves as a common indicator of the extent to which the Nation has achieved the major goal of free, universal basic education. Indications are that the goal has not been reached and will not be achieved in the near future. The proportion of 18-year-olds who graduated from high school rose steadily during the 1950's and the early 1960's (entry 5.4). However, the ratio has fallen slightly during this decade, from a high of 75.9 percent in 1969. No rise in the ratio is projected until the mid-1980's.

Various trends support the assumption that each year, one-fourth of all 18-year-olds will not graduate. Many 18-year-olds who fail to graduate leave school well before the 11th grade. The majority of these dropouts are unlikely to re-enroll or take the high school equivalency examination. Furthermore, if plans to implement competency standards for graduation are followed, more students may fail to graduate.

As shown previously, the likelihood of completing high school is related to racial/ethnic origin. One-third of young adults of Hispanic origin and one-fifth of young black adults have not completed high school (entry 5.5). The dropout rate among blacks fell appreciably in the early 1970's, but has levelled off in more recent years.

Approximately one-half of the Nation's high school graduates enter college the following fall. An indication of the knowledge that students bring to college is provided through national standardized entrance examination scores. Entrance examination scores on the Scholastic Aptitude Test (SAT) declined throughout the 1970's (entry 5.6). In 1978, SAT verbal scores held steady but the mathematical scores dropped a few points from 1977. Scores on the ACT Assessment Program examinations also have dropped somewhat, though the latest year shows a slight improvement on both the English and the mathematical subtests. It is too early to assess whether these latest data represent a pause or a turning point from the decline.

Researchers have given considerable thought to the factors underlying this decline. The explanation presented by the SAT advisory panel on the test score decline is that the decline came in two stages, each associated with a different set of factors. During the initial stage (the first 6 or 7 years of the decline), colleges and universities extended admissions to many groups formerly excluded. The college-going population grew in size and diversity. More lower-scoring students took the tests for the first time. The entry of low scorers depressed the overall average but, of course, had no effect on the performance of students who characteristically did well. High ability students did as well as they always had.

After 1970, changes in the composition of the test-taking group became less important as scores among all ability groups began to fall. This pervasive score decline indicated that factors other than compositional changes were influencing performance. Maintaining that the results could not be attributed to one single factor, the panel of experts cited several interwoven influences:

- Curriculum changes
- Lower performance expectations
- Television
- Structural changes in the family
- Societal disruption
- Diminished student motivation

It is too early to tell whether changes in any one of these areas will result in improvement in students' college entrance examination scores.

These results come at a period when many students are entering college with advanced standing while others feel that they are inadequately prepared for college coursework in certain subjects. Data on advanced placement candidates and on students citing a need for remedial work suggest the outer limits of this range.

The number of students participating in the College Entrance Examination Board's Advanced Placement Program indicate that many high school students are prepared to handle college work beyond the entry level (entry 5.7). Examinations are offered annually to give high school students opportunities to demonstrate college-level proficiencies. In the 1978 school year, more than 93,000 high school students took examinations to qualify for sophomore standing in college coursework. This number approximates one-tenth of all students who took college entrance examinations. Students most often took the examinations in English, American history, calculus, and biology.

While one-tenth of high school students appear prepared for advanced college work, at least that proportion of college freshmen reported that they need remedial work to raise their performance to that of entry level (entry 5.8). The percentages of students who indicated a need for remedial work varied by subject area and type of institution. About one-fourth of all entering freshmen said they need additional work in mathematics. Only 4 percent indicated they needed help in social studies. Students attending universities were least likely to report that they were unprepared for college work. According to their self-reports, students going to predominantly black colleges were most likely to respond that they needed remedial work. Students in predominantly black colleges as well as students in 2-year institutions were also more likely to report that they had undergone remedial work for college. Most often, remedial work was in social studies, reading, and English.

The need for better preparation in high school is measured in the responses of high school graduates upon graduation and 4½ years following graduation (entry 5.9). High school graduates tend to assess their high school more critically 4½ years after high school than upon graduation. Before the class of 1972 graduated, they were asked to evaluate the training and the counseling that they received. These questions were repeated 4½ years later, in 1976. Although responses differed by the respondents' post-secondary educational experience, they were, in general, less favorable in 1976. Fewer respondents indicated in 1976 that the school had provided helpful advice in finding employment or in furthering their education. More felt that their school should have placed greater emphasis on basic academic subjects. This heightened need for better academic training was expressed by those without college experience as well as by those with college experience. A sizeable proportion of respondents indicated a need for better vocational training and for practical work experience in both 1972 and 1976.

For many high school graduates and adults, non-collegiate postsecondary vocational schools provide an alternative to college. Although quite different from higher education degree data, completion rates in vocational schools provide a measure of educational outcomes. Completion of vocational programs in non-collegiate postsecondary school appears to be associated with the type of the program and the control of the institution (entry 5.10). Vocations which require certification for entry (e.g., health occupations) tend to have higher completion rates. Other occupations with no licensing requirements (e.g., business/office and marketing/distribution) have smaller proportions completing but larger proportions leaving with marketable skills prior to completion. Also, programs offered by private schools tend to have higher completion rates. Shorter, more intensive training and higher tuition costs may contribute to higher rates of completion in private schools.

Because comparable data have been available on college degree recipients for a decade and a half, it is possible not only to describe recent trends in degrees granted but also to project these trends into the near future. The 1960's marked a period of unprecedented growth in degrees awarded at all levels (entry 5.11). The numbers of bachelor's, master's, and doctor's degrees more than doubled during this decade. By the early 1970's, the number of bachelor's degrees awarded had reached over 900,000 annually and has levelled off since then. In 1977, the number of bachelor's degrees awarded to males dropped while the number to females continued to rise slightly. The pattern for master's degrees is similar to that for bachelor's degrees except that growth is expected to continue throughout this decade. Doctor's degrees, at least in the immediate future, are not expected to approach the peak reached in the early 1970's.

These projections, of course, cannot take into account several important unknowns. The increased number of older adults entering college has confounded degree data by including more part-time, non-degree credit participants in the enrollment totals. Greater flexibility in terms of programs and the time allocated to complete programs has also complicated the problem of projecting degrees. Furthermore, streamlining of data collection efforts has eliminated the distinction between degree credit and non-degree credit participants.

Uncertainty about the job market creates additional problems in projecting the supply of college graduates. The labor market in the 1970's evidenced some difficulty in absorbing the outpouring of college graduates. Approximately one-fourth of recent college graduates entered occupations not traditionally held by the college-educated. Whether or not potential college applicants adjust their plans in light of labor force demands is a significant unknown.

Social and Economic Outcomes

Programs authorized by the Adult Education Act of 1966 are designed to alleviate the educational deficiencies of Americans with less than a basic education. State projects have been funded to extend educational opportunities to non-high school graduates and to persons with limited English proficiency. Through these projects, 118,071 participants received eighth grade diplomas, 128,886 entered high school, and 114,222 enrolled in other education in fiscal year 1976 (entry 5.12). Personal benefits which accrued from participation included registering to vote, obtaining U.S. citizenship, getting a driver's license, and completing training in income tax filing. Also as a result of participation, 18,983 were removed from public assistance, 61,610 found employment, and an additional 44,502 found better employment.

A total of 2,149,900 persons completed vocational education program requirements during fiscal year 1976 and, of those, 1,183,984 (55.1 percent) were available for employment (entry 5.13). Most who were unavailable for placement were continuing in school full-time. Of those available for employment 64 percent found full-time jobs related to their training. Another 25 percent found jobs unrelated to their training and 10 percent were unemployed 3 months after completing their training.

Among young adults with noncollegiate postsecondary experience who applied for jobs related to their training, more than two-thirds of those who had not received certification found employment in related fields (entry 5.14). This indicates that many who did not complete training left programs with marketable skills and found related jobs. Over 90 percent of those who received licenses found employment in the fields for which they trained.

College graduates earn at least 30 percent more annually than high school graduates with no college experience (entry 5.15). However, the income advantages of a college education have diminished somewhat in recent years. Ten years ago, college graduates earned 50 percent more annually than workers with less education. While the income of high school graduates has kept pace with the rise in the Consumer Price Index, the income of college graduates has fallen short of the inflation rate. Competition among the large numbers of college graduates entering the labor force has deflated salaries in many professional entry level positions. Competition, too, has forced a number of college graduates to take lower paying jobs not formerly filled by college graduates, which further depresses their median income. It should be remembered, however, that college graduates are likely to have a distinct edge in employment, if not in earnings.

The earning advantage of college graduates over high school graduates appears to be slightly higher for females. College educated women earn approximately 40 percent more than high school educated women—$12,656 compared to $8,894 in 1977. However, female college graduates average about $3,000 less annually than males with only a high school education.

Among young adult high school graduates with no college experience, most males were craftspersons or operatives and most females were homemakers 4 years after high school graduation (entry 5.16). Relatively few males without college or with only some college were employed in white collar positions. Among the employed females with no college or only some college, most were in sales and clerical occupations. A sizeable proportion of both males and females who had some college but no degree were students, indicating that many had extended their college-going beyond the 4 years after high school. Most of their counterparts who had graduated from college during this period were employed in professional or technical work or were continuing in school.

Beginning salaries offered to bachelor's degree candidates vary considerably by type of undergraduate field and, to a lesser extent, by sex (entry 5.17). Candidates in engineering and the "hard" sciences command a distinct earning advantage over candidates in other fields. Average monthly salary offers range from a low of $837 offered to female candidates in the humanities to a high of $1,662 offered to female candidates in petroleum engineering. Even within the engineering fields, salary offers may differ by more than $300 monthly.

Salary offers to female bachelor's degree candidates in traditionally male-dominated fields such as engineering and chemistry are generally as high as or slightly higher than offers to males. In the humanities and social sciences, however, offers to females fall below those to males.

Although female doctoral degree holders have much higher labor force participation rates than women in general, their rates are lower than those of males in all doctoral fields (entry 5.18). Women appear to fare worse in those fields in which they have higher representation. In those fields in which women represent more than 10 percent of all doctoral degree holders (the average representation of women across all such fields) they tend to have lower labor force participation and higher unemployment rates. For example, unemployment of female doctoral holders in history and the languages runs as high as 6.2 to 10.4 percent.

In suggesting the effects that education has on its participants, this chapter has raised more questions than it has resolved. It has shown the difficulty in separating the outcomes of the educational system from the influences outside the educational system. It has also presented the problems associated with projecting the supply of higher education degrees in an uncertain labor market. By examining the wide variation in earnings among college graduates by race and sex and degree field, it has shown the need for closer study.

Table 5.1
Change in science achievement, by age and type of exercise: School year 1969–70, 1972–73, and 1976–77

Item	1969–70 and 1972–73 items			1972–73 and 1976–77 items		
	1969–70[1]	1972–73	Change	1972–73	1976–77	Change
9-year-olds						
All exercises						
Mean percent correct...	60.97	59.81	*−1.17	52.33	52.24	−0.09
Standard error.....	.35	.44	.56	.42	.45	.62
Physical science						
Mean percent correct...	56.70	55.21	*−1.49	47.50	46.24	*−1.26
Standard error.....	.38	.48	.61	.42	.44	.61
Biological science						
Mean percent correct...	70.35	69.33	−1.02	57.85	59.22	1.38
Standard error.....	.38	.40	.55	.45	.55	.71
13-year-olds						
All exercises						
Mean percent correct...	60.18	58.47	*−1.71	54.47	53.80	−.67
Standard error.....	.40	.47	.62	.40	.42	.58
Physical science						
Mean percent correct...	59.67	57.10	*−2.58	50.43	49.59	−.84
Standard error.....	.42	.51	.66	.41	.41	.58
Biological science						
Mean percent correct...	60.89	59.63	−1.26	61.08	61.99	.92
Standard error.....	.41	.50	.71	.45	.50	.67
17-year-olds						
All exercises						
Mean percent correct...	45.25	42.46	*−2.79	48.41	46.49	−1.92
Standard error.....	.34	.32	.47	.37	.44	.57
Physical science						
Mean percent correct...	42.87	39.34	*−3.52	46.83	44.45	−2.38
Standard error.....	.38	.35	.52	.37	.43	.57
Biological science						
Mean percent correct...	52.30	51.12	*−1.18	53.30	52.19	−1.12
Standard error.....	.42	.42	.59	.49	.50	.70

* Change statistically significant at the 0.05 level.
[1] Year of assessment for 17-year-olds is 1969.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Assessment of Educational Progress, *Three National Assessments of Science: Changes in Achievement, 1969–77*, 1978, and unpublished data.

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Chart 5.1
Science Assessment by Age

Achievement on the physical sciences exercises declined in 1973 from a base year 1970 assessment and declined still further in 1977. On the biological science exercises, scores declined in 1973 yet rose in 1977 among the younger age groups.

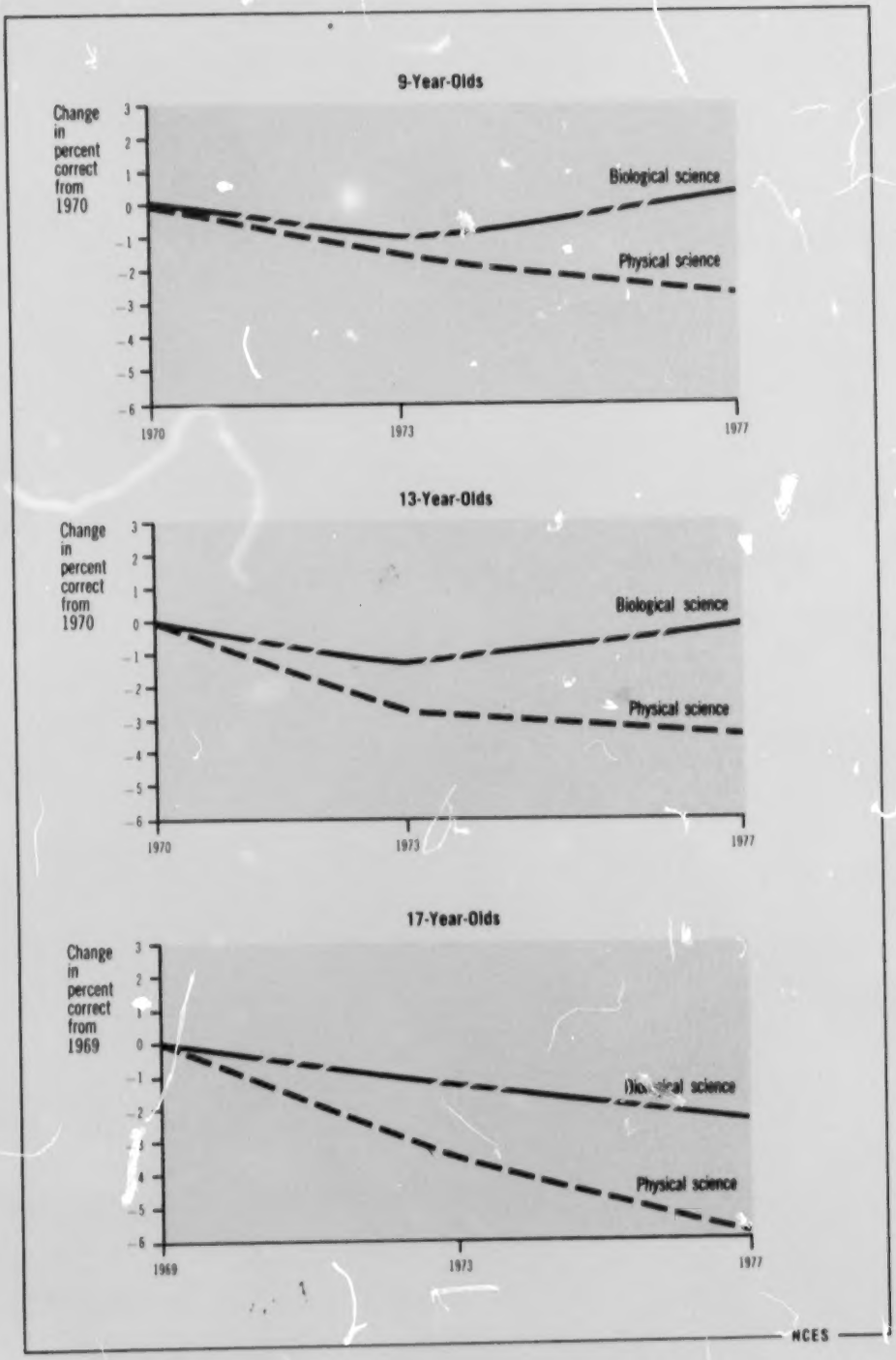

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Table 5.2
Differences from national scores on art knowledge and art appreciation exercises, by age, parental education, size and type of community, and art exposure: School year 1974–75

Type of exercise and characteristic	9-year-olds		13-year-olds		17-year-olds	
	Mean difference	Standard error of difference	Mean difference	Standard error of difference	Mean difference	Standard error of difference
Art knowledge						
Parental education						
Unknown	*−3.21	0.51	*−4.48	0.62	*−7.68	0.80
No high school	*−5.64	1.72	*−5.36	.82	*−6.44	.74
Some high school	*−4.02	1.35	*−3.26	.58	*−5.51	.47
Graduated high school	−.72	.68	*−.62	.28	*−.83	.32
Post high school	*5.27	.56	*3.19	.27	*3.50	.24
Size and type of community						
Low metro	*−8.29	1.50	*−4.53	.84	*−3.39	.72
Extreme rural	−1.51	1.26	*−3.10	.61	*−3.22	.96
Small places	−.74	.66	.36	.38	−.40	.39
Medium city	−.50	1.06	−.35	.69	.26	.62
Main big city	−2.29	1.52	−1.70	.98	−.76	.98
Urban fringe	*3.63	1.53	*1.98	.48	*2.59	.76
High metro	*6.62	1.41	*3.23	.64	*4.14	1.02
Art taught in school						
Yes	*.29	.10	*.22	.07	.16	.09
No/no response/don't know	*−3.82	1.36	*−3.01	.75	*−4.02	1.24
Visited art museum						
Never	*−1.63	.44	*−2.02	.30	*−5.12	.37
Once	−.20	.41	*−.83	.31	*−2.85	.34
Often	*2.14	.47	*1.87	.22	*3.42	.19
Art appreciation						
Parental education						
Unknown	*−2.78	.33	*−7.93	0.58	*−11.27	1.08
No high school	*−3.35	1.01	*−6.14	.78	*−6.36	1.16
Some high school	−.89	1.05	*−3.18	.72	*−3.58	.79
Graduated high school	−.25	.46	*−.95	.38	*−2.00	.41
Post high school	*3.82	.32	*4.52	.33	*4.40	.28
Size and type of community						
Low metro	*−3.38	1.04	−1.99	1.22	*−2.71	.88
Extreme rural	−.73	1.08	*−3.31	1.38	*−2.37	.88
Small places	*−.88	.44	−.22	.44	−.70	.51
Medium city	−.11	.86	−.39	.72	−.74	.83
Main big city	−.62	1.05	−1.21	1.07	2.22	1.24
Urban fringe	1.53	1.02	*1.71	.74	1.75	1.04
High metro	*4.07	.98	*3.60	1.10	*4.07	1.27
Art taught in school						
Yes	.20	.11	.07	.08	*.24	.10
No/no response/don't know	−2.57	1.49	−.77	.97	*−4.78	1.60
Visited art museum						
Never	*−1.88	.38	*−3.58	.38	*−7.93	.50
Once	−.28	.39	*−2.14	.34	*−4.05	.40
Often	*2.54	.42	*3.79	.30	*5.06	.27

* Statistically significant at the 0.05 level.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Assessment of Educational Progress, *Art Technical Report: Summary Volume*, 1978.

Chart 5.2
Art Knowledge by Age, Parental and Community Background, and Art Exposure

Students from low income metropolitan communities scored far below the national mean and those from high income metropolitan communities scored well above the national mean on the art knowledge assessment.

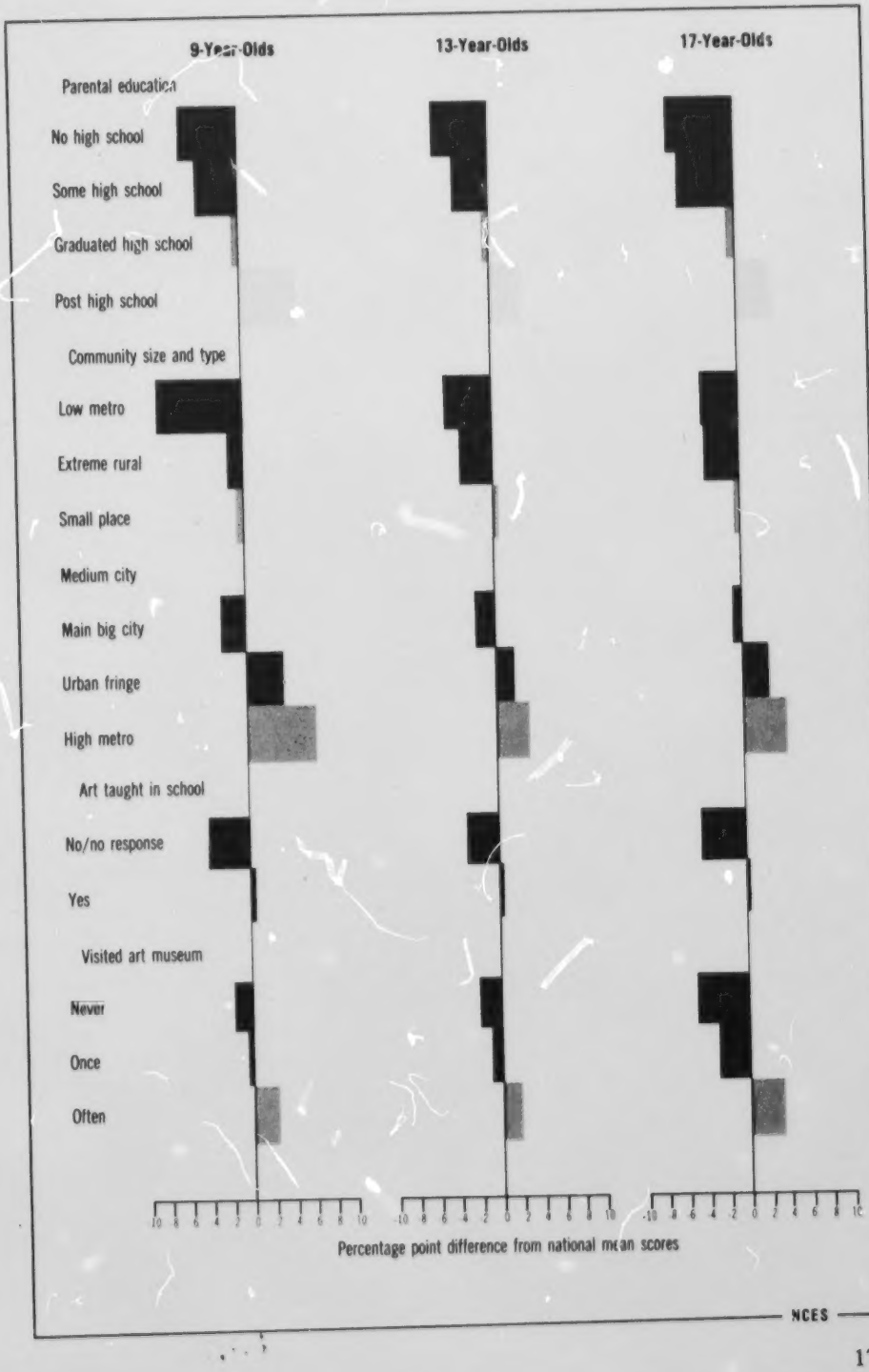

Table 5.3
Mean percent correct scores on math assessment of 17-year-olds, by time spent on homework weekly and television nightly: 1976

Time spent viewing television nightly	Mean percent correct by time spent on homework weekly					
	Total	No homework assigned	None	Less than 5 hours	5 to 10 hours	More than 10 hours
Total	66.2	53.4	63.4	65.1	70.8	74.8
Minimal (less than 1 hour)	68.7	55.0	65.4	67.2	72.8	79.7
Moderate (1 to 3 hours)	66.6	53.4	64.4	65.5	70.7	72.0
Heavy (3 to 5 hours)	61.4	52.1	58.7	60.5	66.7	[1] 62.1
Very heavy (5 hours or more)	55.0	[1] 47.1	[1] 54.7	56.8	57.1	[1] 54.8

[1] Caution should be exercised in interpreting scores because of small sample size in cell.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Assessment of Educational Progress, "Some Preliminary Analyses of National Longitudinal Study Background Items Used in the National Assessment", 1978.

Chart 5.3
Math Achievement of 17-Year-Olds by Nightly Television Viewing and Weekly Homework Assignment

Seventeen-year-olds who spent more than 10 hours on homework weekly and less than 1 hour watching television nightly scored highest on the mathematics assessment. Students who spent 5 or more hours watching television nightly scored significantly below the national mean.

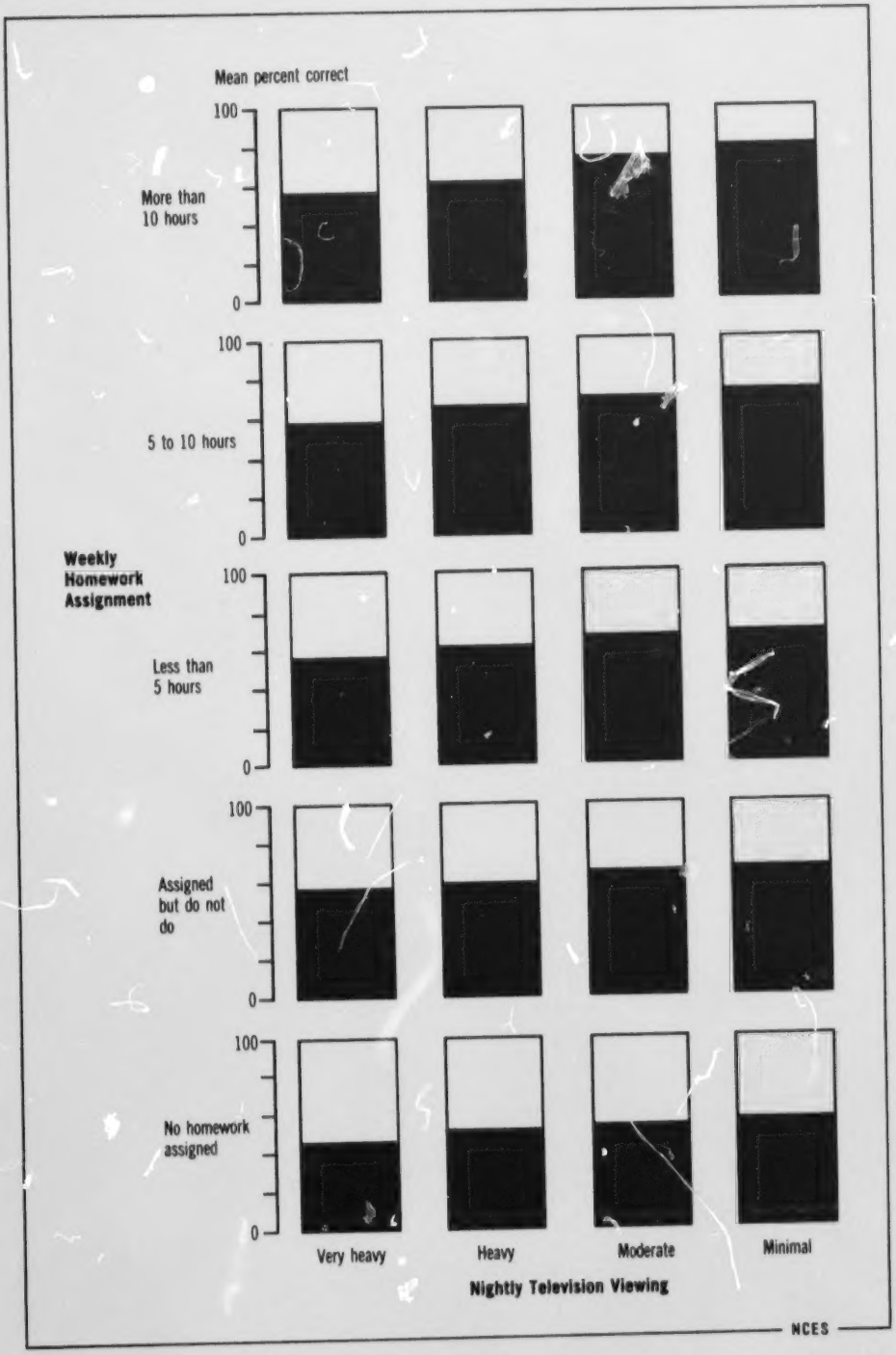

Table 5.4
High school graduates as percent of 18-year-old population[1]: School year, 1954-55 to 1984-85

School year	Total high school graduates	Percent of 18-year-olds
1954-55	1,351	61.3
1955-56	1,421	62.8
1956-57	1,446	62.8
1957-58	1,513	63.1
1958-59	1,639	63.7
1959-60	1,864	66.7
1960-61	1,971	69.2
1961-62	1,925	69.5
1962-63	1,950	67.8
1963-64	2,290	68.4
1964-65	2,665	73.9
1965-66	2,632	74.9
1966-67	2,679	75.8
1967-68	2,702	74.8
1968-69	2,829	75.9
1969-70	2,896	75.6
1970-71	2,944	75.0
1971-72	3,008	75.1
1972-73	3,043	74.7
1973-74	3,081	74.0
1974-75	3,140	74.3
1975-76	3,154	74.7
1976-77	3,154	74.7
	Projected	
1977-78	3,160	74.6
1978-79	3,144	74.6
1979-80	3,097	74.8
1980-81	3,043	74.8
1981-82	2,944	74.8
1982-83	2,835	75.6
1983-84	2,740	75.9
1984-85	2,692	76.0

[1] Population 18 years old estimated to the nearest birthday.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1986–87* and unpublished tabulations.

Chart 5.4
High School Graduates as Percent of 18-Year-Olds

The ratio of high school graduates to all 18-year-olds has fallen slightly from a high of 75.9 percent in 1969. No rise in the ratio is projected until the mid-1980's.

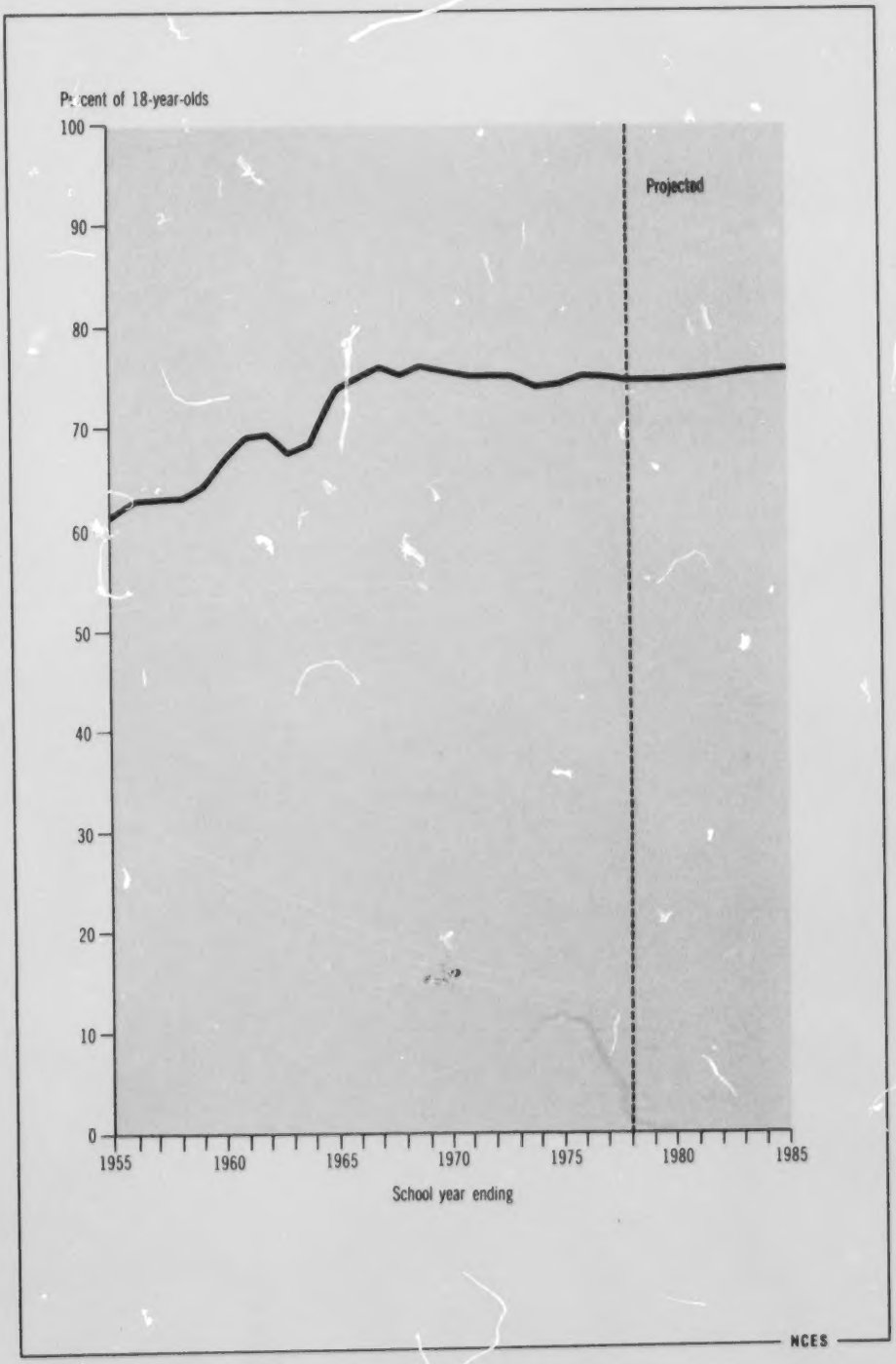

Table 5.5
Persons not enrolled in school and not high school graduates, by age, racial/ethnic group, and sex: 1967 to 1977

Item	Percent of population, not enrolled in school and not high school graduates			
	Total, 16 to 24 years old	16 and 17 years old	18 and 19 years old	20 to 24 years old
1967				
White male	14.7	7.0	15.4	18.8
White female	16.1	9.4	16.3	19.0
Black male	30.6	11.8	30.7	42.6
Black female	26.9	14.7	22.0	36.1
1968				
White male	14.4	6.9	14.3	18.9
White female	15.0	7.6	14.6	18.5
Black male	27.1	10.1	23.8	39.7
Black female	27.6	14.2	24.7	35.9
1969				
White male	12.6	6.8	12.6	15.9
White female	14.6	8.8	14.2	17.3
Black male	26.9	10.2	31.5	34.7
Black female	26.6	11.5	23.1	35.7
1970				
White male	12.2	6.3	13.3	14.8
White female	14.1	8.4	14.8	16.3
Black male	29.4	13.3	36.4	35.4
Black female	26.6	12.4	26.6	33.5
1971				
White male	12.6	6.4	14.2	15.1
White female	14.2	8.6	13.8	16.7
Black male	25.5	9.4	26.0	34.2
Black female	22.1	9.2	22.5	28.2
1972				
White male	13.0	7.8	13.5	15.3
White female	14.2	9.6	13.2	16.6
Black male	22.3	9.4	27.1	27.2
Black female	20.8	7.6	21.0	27.3
Hispanic origin male	33.6	11.7	35.5	44.4
Hispanic origin female	35.0	19.3	25.9	44.3
1973				
White male	12.5	8.7	14.1	13.7
White female	13.3	9.2	15.2	14.2
Black male	21.6	10.6	27.7	24.9
Black female	22.9	10.0	23.0	29.0
Hispanic origin male	30.7	12.6	32.9	38.2
Hispanic origin female	36.4	22.8	40.5	41.6
1974				
White male	13.4	9.4	17.4	13.6
White female	13.1	9.1	13.9	14.5
Black male	20.1	8.3	26.9	23.6
Black female	22.3	12.6	20.2	27.7
Hispanic origin male	33.8	19.6	35.1	40.4
Hispanic origin female	32.3	20.8	25.1	40.3
1975				
White male	12.0	7.3	13.7	13.4
White female	13.2	9.6	15.6	13.6
Black male	22.8	9.7	27.7	27.9
Black female	22.8	10.7	23.4	28.4
Hispanic origin male	26.6	11.1	26.3	35.9
Hispanic origin female	31.5	15.5	33.5	38.6
1976				
White male	13.2	7.6	17.1	14.1
White female	13.3	9.1	15.4	14.1
Black male	21.2	8.1	19.3	29.6
Black female	19.7	10.8	20.7	23.5
Hispanic origin male	30.2	13.3	32.0	38.6
Hispanic origin female	32.3	17.7	29.5	40.4
1977				
White male	13.9	8.6	17.0	14.9
White female	12.8	9.1	14.8	13.5
Black male	19.4	6.9	23.8	24.3
Black female	20.0	8.4	20.3	25.1
Hispanic origin male	31.5	9.9	23.7	41.7
Hispanic origin female	34.2	20.9	31.8	41.2

SOURCE: U.S. Department of Commerce, Bureau of the Census, *School Enrollment—Social and Economic Characteristics of Students*, P–20, various years.

Chart 5.5
Young Adult High School Dropouts

One-third of young adults of Hispanic origin and one-fifth of black young adults have not completed high school. The dropout rate among blacks fell appreciably in the early 1970's, leveling off in the later years. The dropout rate among white young adults has not declined significantly in 10 years.

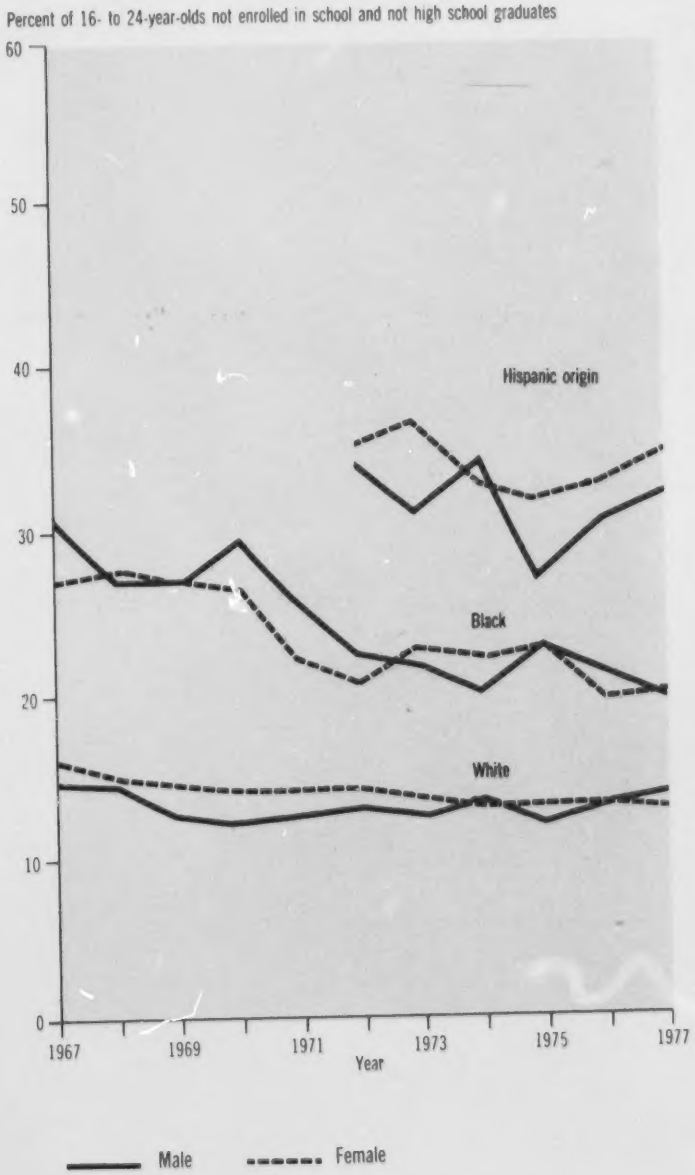

Table 5.6
Mean scores on standardized college entrance examinations: School year ending 1967 to 1978

School year ending	Scholastic Aptitude Test (SAT)		ACT Assessment Program (ACT)	
	Verbal	Mathematical	English	Mathematical
1970	460	488	18.5	20.0
1971	455	488	18.0	19.1
1972	453	484	17.9	18.8
1973	445	481	18.1	19.1
1974	444	480	17.9	18.3
1975	434	472	17.7	17.6
1976	431	472	17.5	17.5
1977	429	470	17.7	17.4
1978	429	468	17.9	17.5

SOURCE: College Entrance Examination Board, *College-Bound Seniors, 1978*, 1978 and American College Testing Program, *The High School Profile Service*, (1970–78).

Chart 5.6
College Entrance Examination Scores

Entrance examination scores on the Scholastic Aptitude Test have continued to decline in the 1970's. Scores on the ACT Assessment Program examinations have also dropped somewhat, although the latest year shows a slight improvement on both the English and the mathematics subtests.

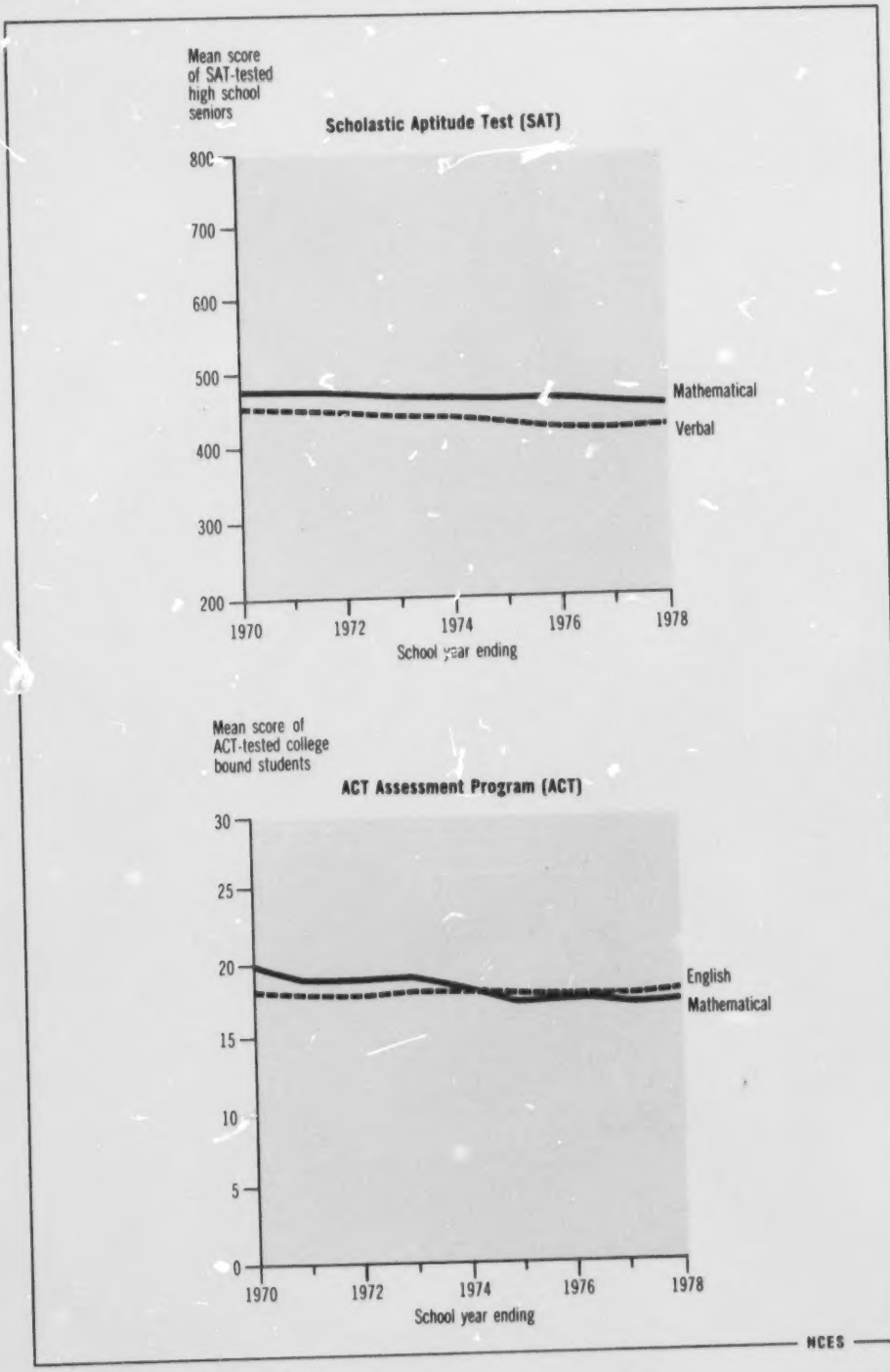

Table 5.7
Number of advanced placement candidates, examinations taken, and institutions of higher education offering advanced placement: School year ending 1956 to 1978

School year ending	Candidates taking examinations	Examinations taken	Institutions offering
1956	1,229	2,[illegible]	130
1957	2,068	3,772	201
1958	3,715	6,800	279
1959	5,862	8,265	391
1960	10,531	14,158	567
1961	13,283	17,603	617
1962	16,255	21,451	683
1963	21,769	28,762	765
1964	28,874	37,829	888
1965	34,278	45,110	994
1966	38,178	50,104	1,076
1967	42,383	54,812	1,133
1968	46,917	60,674	1,193
1969	53,363	69,418	1,288
1970	55,442	71,495	1,368
1971	57,850	74,409	1,382
1972	58,828	75,199	1,483
1973	54,778	70,651	1,437
1974	60,863	79,036	1,507
1975	65,635	85,786	1,517
1976	75,651	98,898	1,580
1977	82,728	108,870	1,672
1978	93,313	122,561	1,735

SOURCE: College Entrance Examination Board, "Advanced Placement Examination Bulletin", 1978.

Chart 5.7
Advanced Placement Candidates

In the school year ending in 1978, more than 93,000 high school students took examinations to qualify for sophomore standing in college courses. More than half of all institutions of higher education granted advanced standing or credit to qualifying applicants.

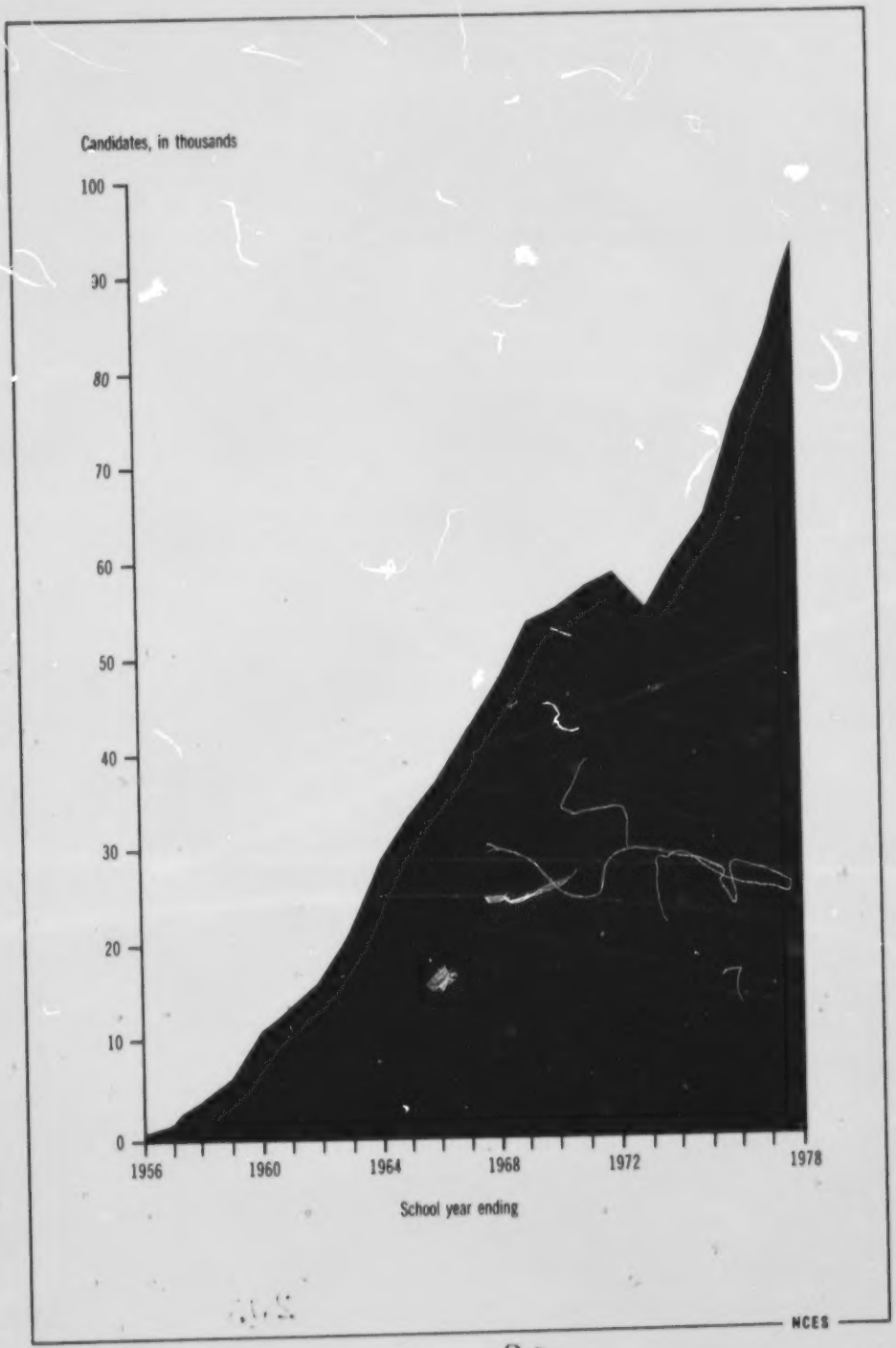

Table 5.8
Percent of first-time entering freshmen having had remedial work and percent citing need for remedial work, by type of institution and by subject area: Fall 1978

Subject area	All institutions	2-year colleges	4-year colleges	Universities	Predominantly black colleges
			Percent having had remedial work		
Mathematics	10.6	12.5	10.8	7.6	18.6
Foreign language	6.7	7.9	6.7	5.1	11.3
English	10.0	12.4	10.0	6.4	23.2
Science	9.1	10.9	9.2	6.0	20.9
Reading	11.0	13.8	10.9	7.0	25.4
Social studies	10.3	12.5	10.5	6.8	25.9
			Percent citing need for remedial work		
Mathematics	24.9	27.5	25.9	19.5	49.3
Foreign language	14.2	13.7	16.7	11.2	40.3
English	14.0	16.0	14.0	11.1	26.3
Science	12.9	12.8	14.2	11.0	29.2
Reading	8.1	9.1	8.6	5.6	17.0
Social studies	4.0	4.5	4.4	2.8	12.0

SOURCE: American Council on Education, Cooperative Institutional Research Program, *The American Freshman: National Norms 1978*, advance data.

Chart 5.8
College Freshmen Indicating Need for Remedial Work by Subject Area

About one-fourth of all entering college freshmen stated that they need remedial work in mathematics. In predominantly black colleges, almost half of the students cited a need for additional math help.

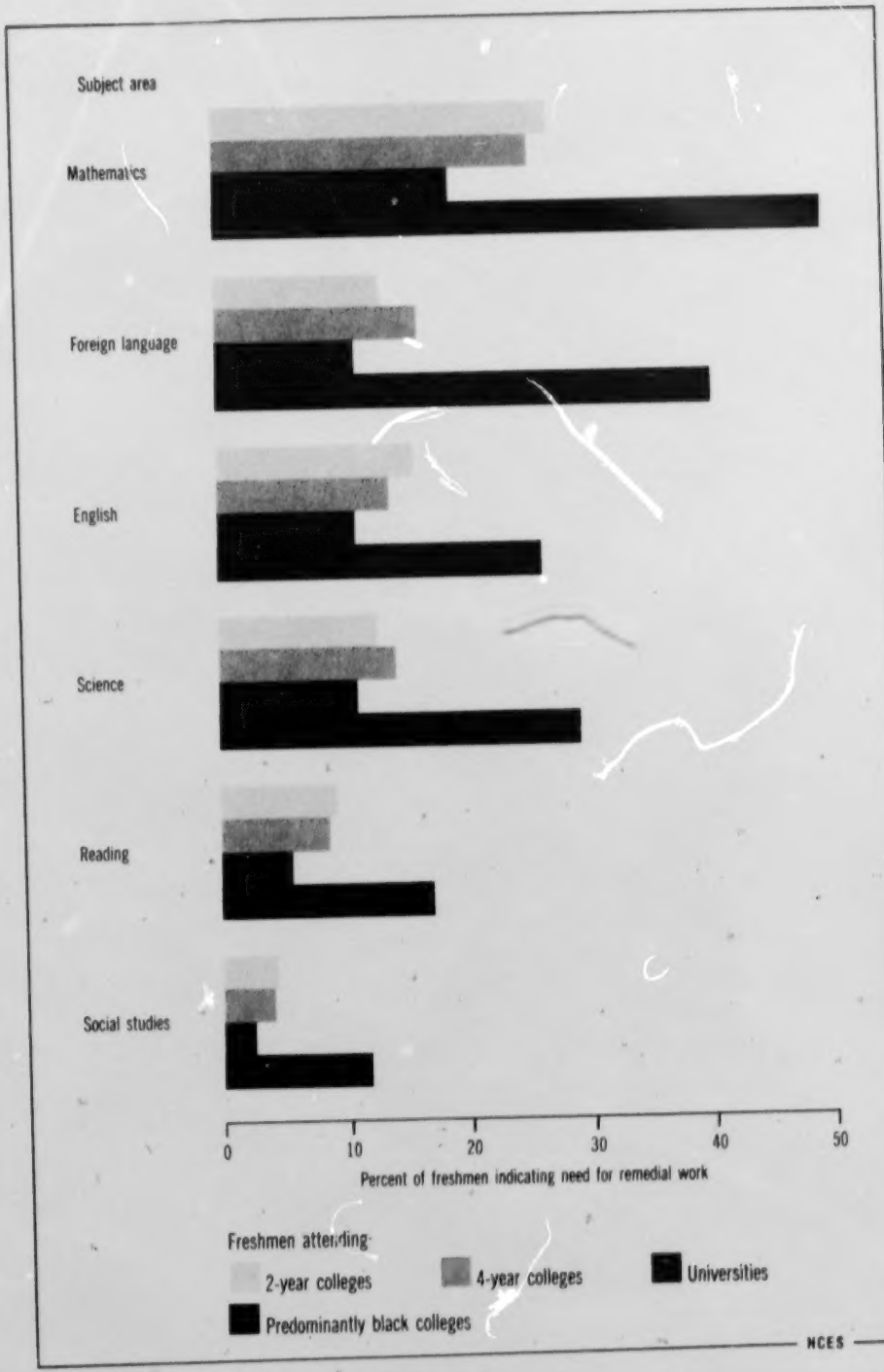

Table 5.9
Attitudes of young adults toward high school, upon graduation in 1972 and 4½ years after graduation, by educational attainment in 1976

Item	Total	No college	Some college, no degree	Bachelor's degree or higher
	Percent indicating strong agreement in 1972			
School should have placed more emphasis on basic academic subjects (math, science, English, etc.)	11.1	9.9	12.0	11.5
School did not offer enough practical work experience	28.6	31.3	27.7	22.9
School should have placed more emphasis on vocational and technical programs	30.2	38.2	26.6	16.1
School provided me with counseling that helped me find employment	11.1	15.3	8.8	4.6
School provided me with counseling that helped me continue my education	20.5	18.7	21.8	21.4
	Percent indicating strong agreement in 1976			
School should have placed more emphasis on basic academic subjects (math, science, English, etc.)	19.6	16.1	21.9	22.3
School did not offer enough practical work experience	27.0	27.5	28.2	22.4
School should have placed more emphasis on vocational and technical programs	27.5	34.0	25.9	13.7
School provided me with counseling that helped me find employment	8.4	10.3	7.5	5.6
School provided me with counseling that helped me continue my education	12.1	8.8	13.1	16.3

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, unpublished tabulations.

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Chart 5.9
Attitudes of Young Adults Toward High School

More young adults saw a greater need for basic high school academic training 4 years after high school graduation than they had seen immediately prior to graduation.

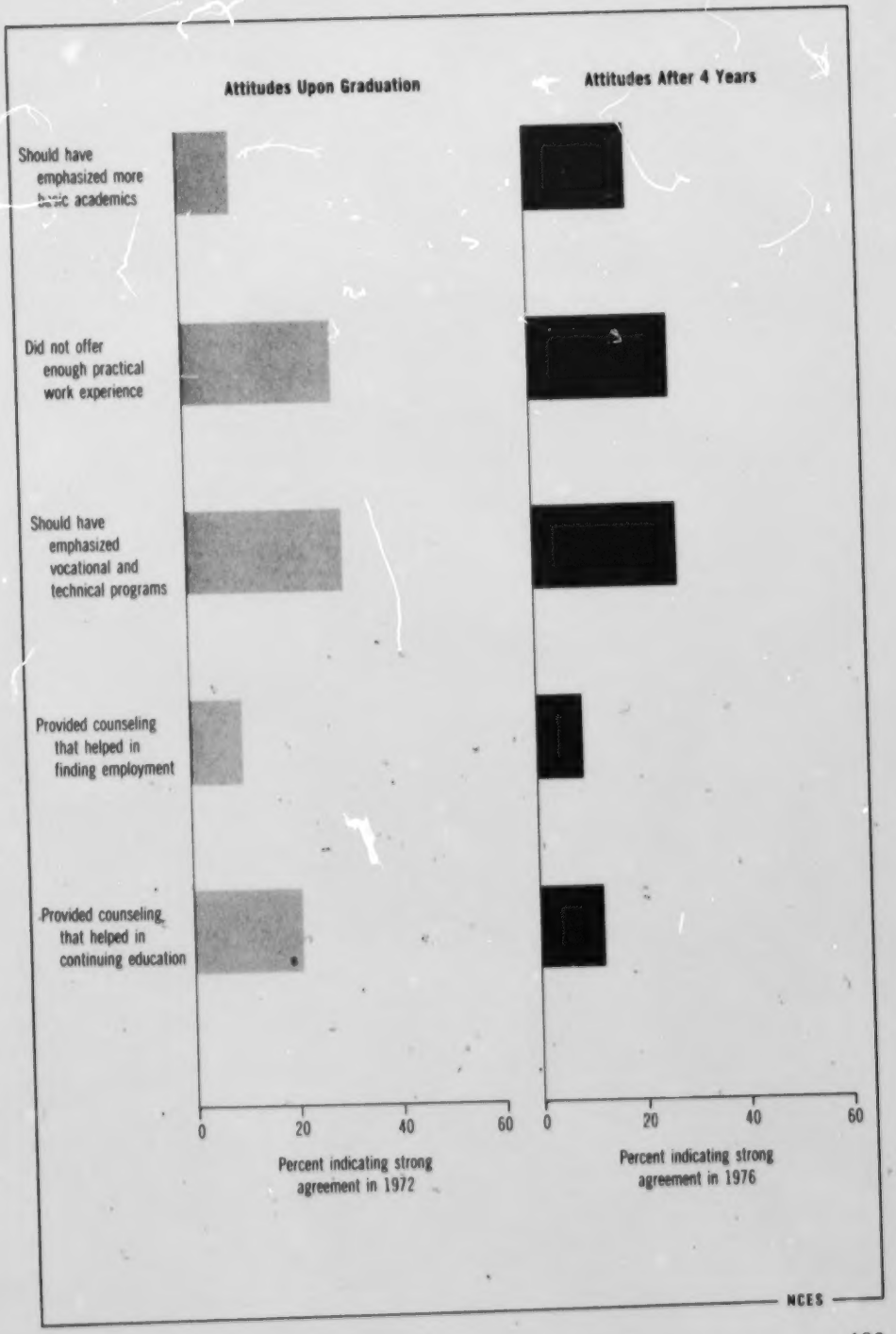
Attitudes Upon Graduation
Attitudes After 4 Years
Should have emphasized more basic academics
Did not offer enough practical work experience
Should have emphasized vocational and technical programs
Provided counseling that helped in finding employment
Provided counseling that helped in continuing education
0
20
40
60
Percent indicating strong agreement in 1972
Percent indicating strong agreement in 1976
NCES

Table 5.10
Occupational program completions and hours to complete programs in noncollegiate postsecondary residential schools, by control of institution and type of program: Fiscal year 1976

Control of institution and type of program	Total	Completed	Left with marketable skill	Continued or dropped out	Hours to complete
		Percentage distribution			
Public	100.0	40.8	8.3	50.9	1,500
Health occupations	100.0	61.8	5.8	32.4	1,637
Marketing/distribution	100.0	39.5	9.6	50.9	1,530
Business/office	100.0	37.7	11.3	51.0	1,231
Agribusiness	100.0	41.5	7.3	51.2	1,664
Trades/industry	100.0	34.7	8.5	56.8	1,574
Home economics	100.0	37.3	4.7	58.0	1,807
Technical	100.0	29.9	5.3	64.8	1,093
Private	100.0	54.4	7.6	38.0	947
Health occupations	100.0	51.7	2.8	45.5	2,123
Marketing/distribution	100.0	78.1	7.7	14.2	413
Business/office	100.0	44.4	10.5	45.1	1,025
Agribusiness	100.0	79.0	1.0	20.0	405
Trades/industry	100.0	59.3	6.3	34.4	1,106
Home economics	100.0	13.2	4.4	82.4	413
Technical	100.0	53.4	9.4	37.2	256

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, "Occupational Education: Completers and Leavers From Schools With Occupational Programs", 1978, and unpublished data.

Chart 5.10
Vocational Education Completions by Type of Program and Control of Institution

Completion rates in noncollegiate postsecondary schools are dependent on the type of program and the control of the institution.

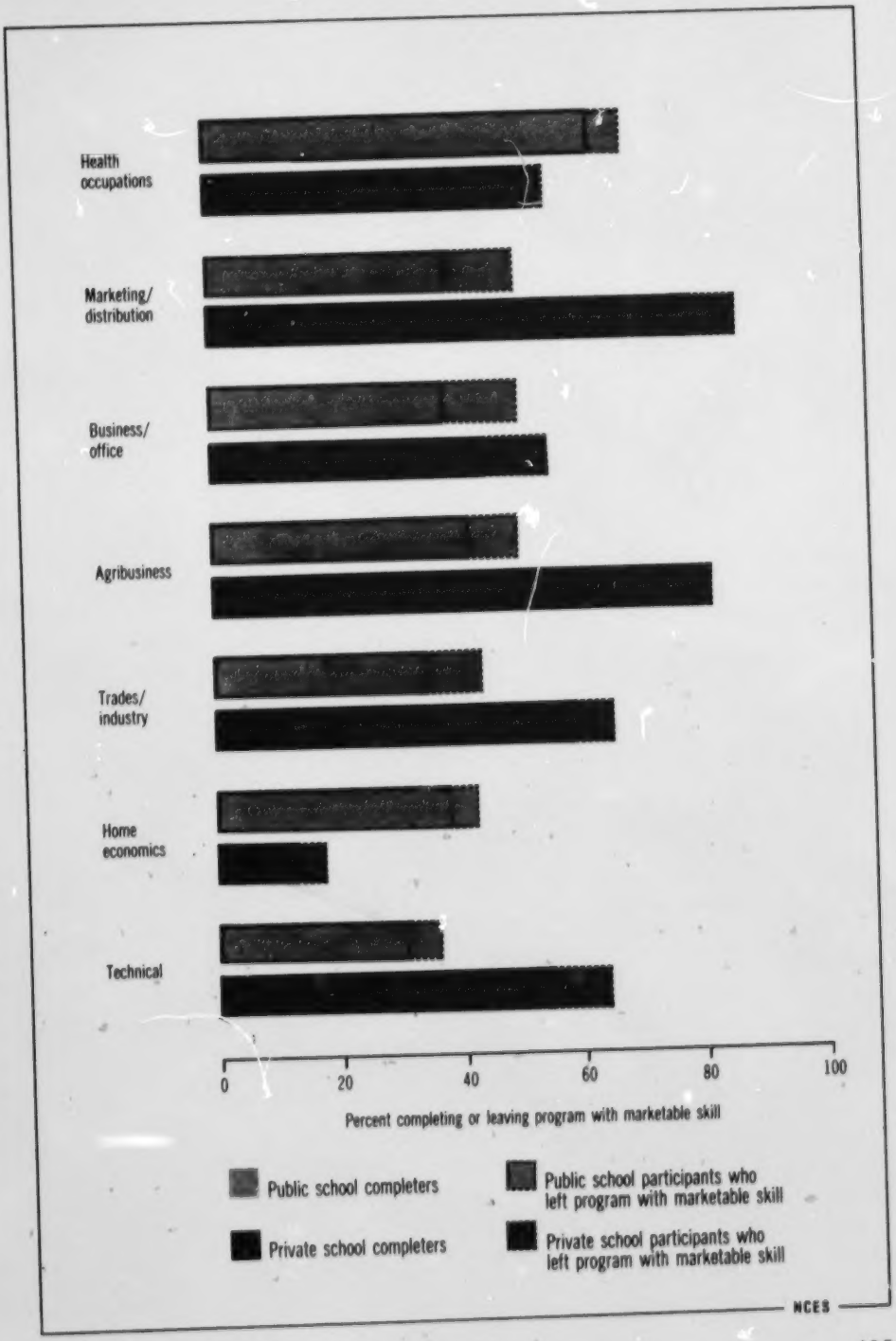

Table 5.11
Earned degrees, by level and sex of student: 1960-61 to 1984-85

School year	Bachelor's degrees			Master's degrees			Doctor's degrees (except first-professional)		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1960–61	369,995	228,500	141,495	81,690	55,267	26,423	10,575	9,463	1,112
1961–62	388,680	234,671	154,009	88,414	59,710	28,704	11,622	10,377	1,245
1962–63	416,928	246,129	170,799	95,470	64,198	31,272	12,822	11,448	1,374
1963–64	466,944	270,319	196,625	105,551	70,339	35,212	14,490	12,955	1,535
1964–65	501,713	289,003	212,710	117,152	77,544	39,608	16,467	14,692	1,775
1965–66	520,923	299,871	221,052	140,548	93,063	47,485	18,237	16,121	2,116
1966–67	558,852	322,948	235,904	157,707	103,092	54,615	20,617	18,163	2,454
1967–68	632,758	358,105	274,653	176,749	113,519	63,230	23,089	20,183	2,906
1968–69	729,071	410,785	318,286	193,756	121,531	72,225	26,188	22,752	3,436
1969–70	792,656	451,380	341,276	208,291	125,624	82,667	29,866	25,890	3,976
1970–71	839,730	475,594	364,136	230,509	138,146	92,363	32,107	27,530	4,577
1971–72	887,273	500,590	386,683	251,633	149,550	102,083	33,363	28,090	5,273
1972–73	922,362	518,191	404,171	263,371	154,468	108,903	34,777	28,571	6,206
1973–74	945,776	527,313	418,463	277,033	157,842	119,191	33,816	27,365	6,451
1974–75	922,933	504,841	418,092	292,450	161,570	130,880	34,083	26,817	7,266
1975–76	925,746	504,925	420,821	311,771	167,248	144,523	34,064	26,267	7,797
1976–77	919,549	495,545	424,004	317,164	167,783	149,381	33,232	25,142	8,090
				Projected					
1977–78	934,000	503,400	430,600	321,700	170,800	150,900	33,100	25,000	8,100
1978–79	956,400	514,500	441,900	325,800	173,300	152,500	33,100	24,900	8,200
1979–80	973,900	521,000	452,900	330,400	175,700	154,700	33,600	25,100	8,500
1980–81	980,100	521,400	458,700	335,500	178,200	157,300	33,700	24,900	8,800
1981–82	980,100	518,500	461,600	341,500	181,400	160,100	33,700	24,700	9,000
1982–83	978,200	514,500	463,700	347,500	184,600	162,900	33,900	24,600	9,300
1983–84	973,000	508,900	464,100	353,600	188,000	165,600	33,800	24,400	9,400
1984–85	967,700	502,200	465,500	359,600	191,300	168,300	33,900	24,300	9,600

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, "Projections of Degrees, by Level and Sex and by Field of Study to 1987–88," forthcoming management bulletin.

Chart 5.11
Earned Degrees by Level

The numbers of degrees at all levels are expected to remain fairly constant over the next 7 years.

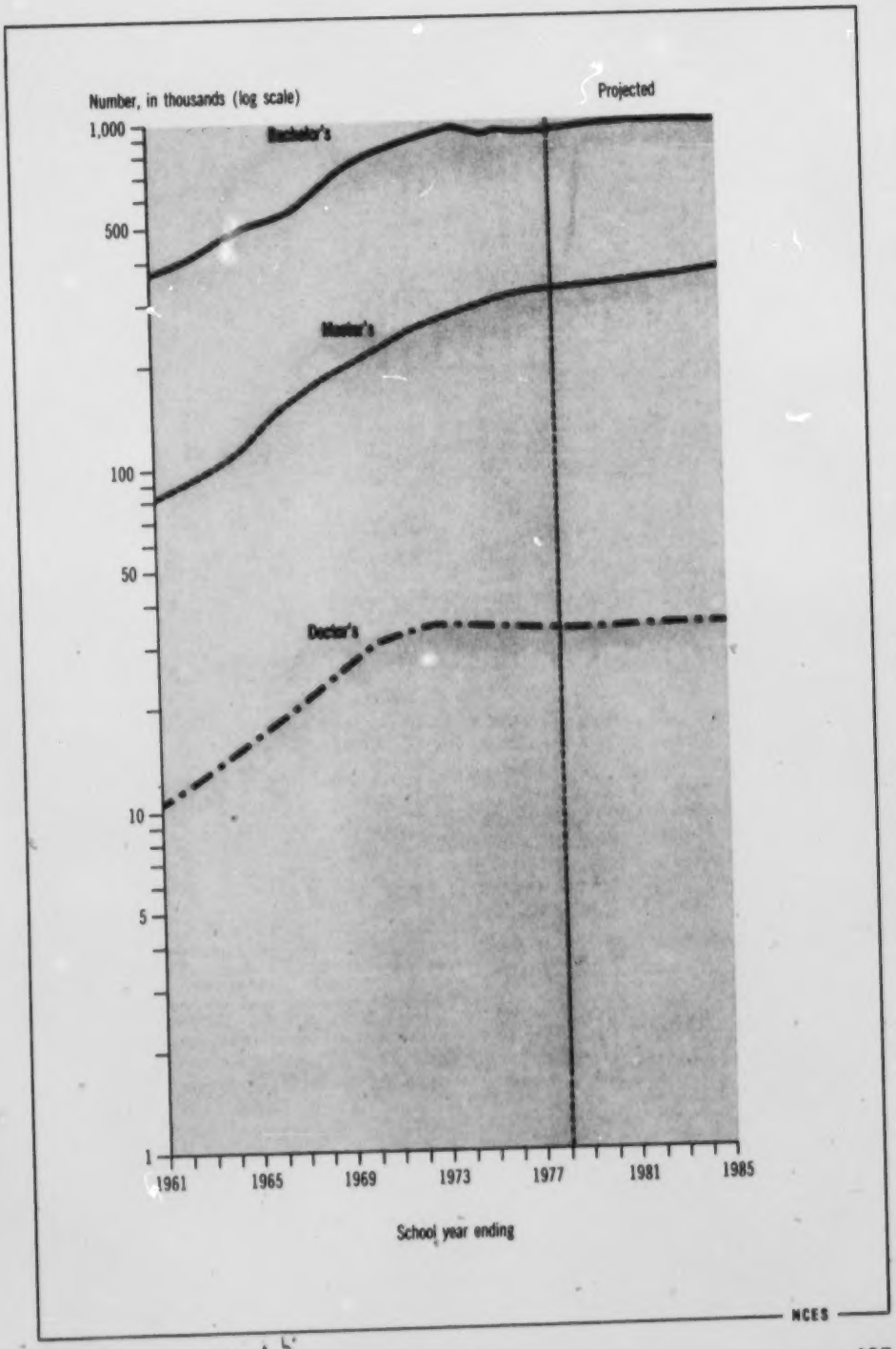

Table 5.12
Participants in adult basic and secondary education programs, by recognized educational, economic, and personal achievements resulting from participation: Fiscal year 1976

Item	Number of participants	Percent of total
Total participants	1,625,509	100.0
Educational achievement		
Eighth grade diploma	118,071	7.3
Entered high school	70,405	4.3
Passed GED	128,886	7.9
Graduated high school	24,665	1.5
Enrolled in other education	114,222	7.0
Economic achievement		
Removed from public assistance	18,983	1.2
Found employment	61,610	3.8
Found better employment	44,502	2.7
Personal achievement		
Registered to vote first time	29,623	1.8
U. S. citizenship	11,628	.7
Driver's license	31,267	1.9
Income tax form training	83,583	5.1

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Adult Basic and Secondary Level Program Statistics*, unpublished data.

Chart 5.12
Adult Basic and Secondary Education Achievements

Through adult basic and secondary education programs, 118,071 participants received an eighth grade diploma, 128,886 entered high school, and 114,222 enrolled in other education.

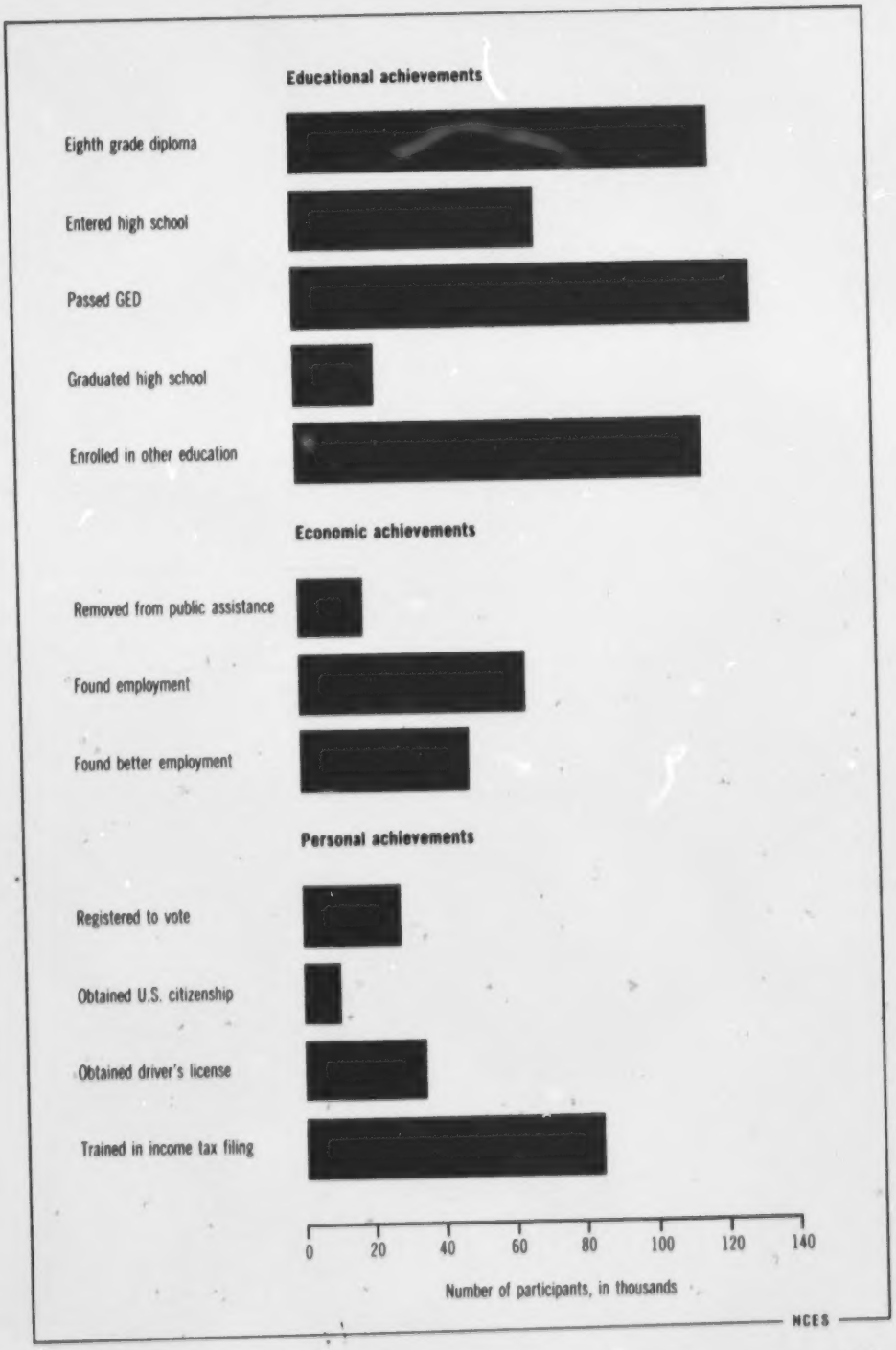

Table 5.13
Labor force status of persons completing State-administered vocational education programs 3 months following completion: Fiscal year 1976

Status	All programs		Secondary		Postsecondary		Adult	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	2,149,900	100.0	1,378,012	100.0	537,363	100.0	234,525	100.0
In labor force	1,183,784	55.1	720,641	52.3	338,326	63.0	124,817	53.2
Not in labor force	532,978	24.8	439,472	31.9	64,070	11.9	29,436	12.6
Status unknown	433,490	20.1	218,254	15.8	134,964	25.1	80,272	34.2
In labor force	1,183,784	100.0	720,641	100.0	338,326	100.0	124,817	100.0
Employed in related field	762,179	64.4	421,108	58.4	257,322	75.9	83,839	67.2
Employed in other field	299,749	25.3	212,856	29.6	57,043	16.8	29,850	23.9
Unemployed	121,856	10.3	86,677	12.0	24,051	7.1	11,128	8.9
Not in labor force	532,978	100.0	439,472	100.0	64,070	100.0	29,436	100.0
Enrolled in school full-time	381,106	71.5	331,790	75.5	33,884	52.9	15,432	52.4
Other	151,872	28.5	107,682	24.5	30,186	47.1	14,004	47.6

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Occupational and Adult Education, *Vocational Education Fiscal Year 1976: Summary Data*, 1978.

Chart 5.13
Labor Force Participation Following Completion of Vocational Education Programs

Of the persons who completed vocational education programs and were available for employment, 64 percent found jobs related to their training. Another 25 percent found jobs unrelated to their training and 10 percent were unemployed 3 months after completing the programs.

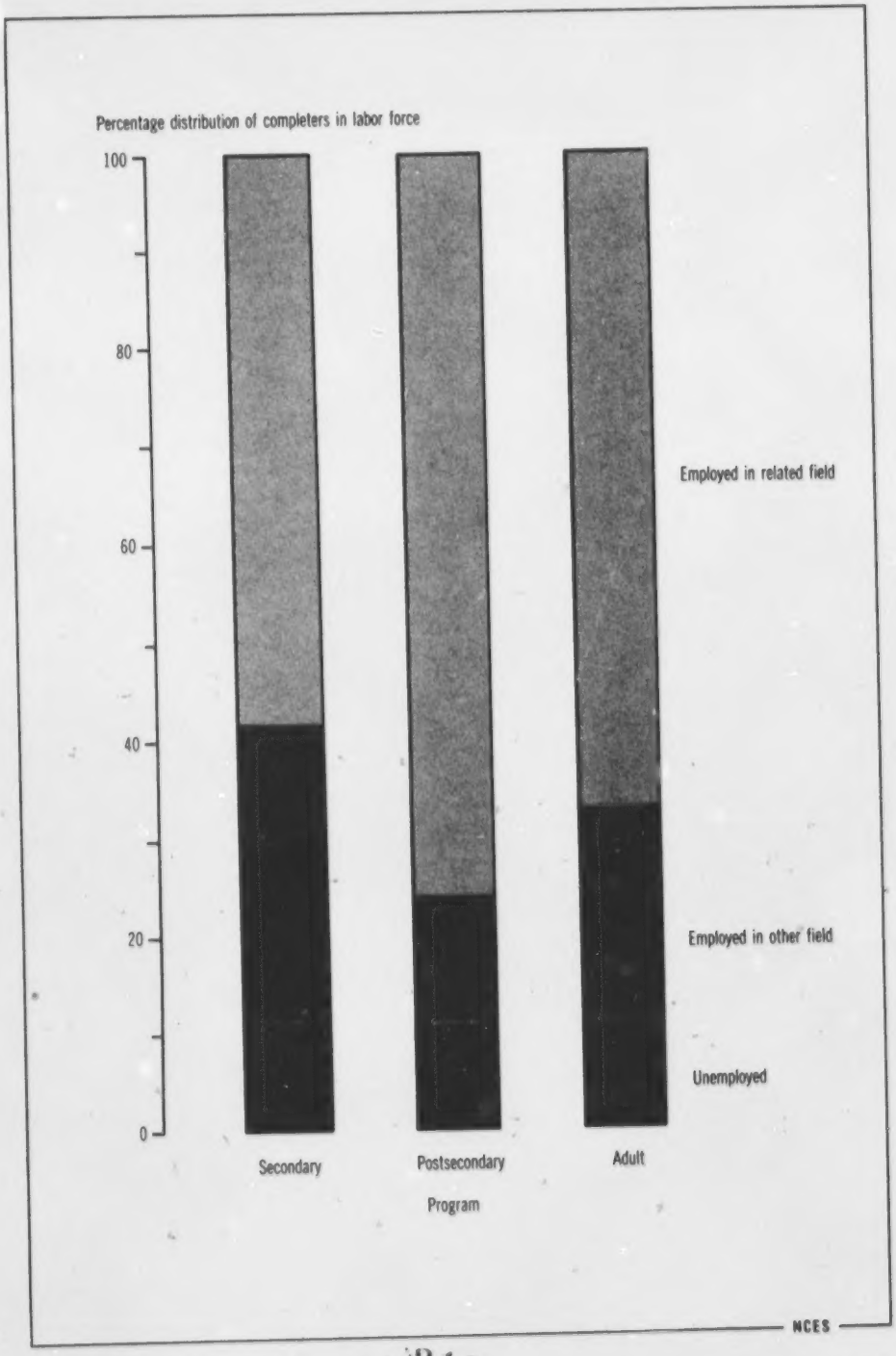

Table 8.14
Young adults with noncollegiate postsecondary training who applied for and obtained employment in field for which trained, by type of certification: 1976

Type of certification	Percent employed in field for which trained
None	71.2
Certificate	71.0
License	90.6
2- or 3-year vocational degree	82.3
Other	84.5

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, unpublished tabulations

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Chart 5.14
Young Adults With Noncollegiate Postsecondary Training Obtaining Employment in Field Trained by Type of Certification

Among young adults with noncollegiate postsecondary training who applied for jobs in their field of training, over 90 percent of those with licenses found employment. More than two-thirds of those without certification also found employment in their field.

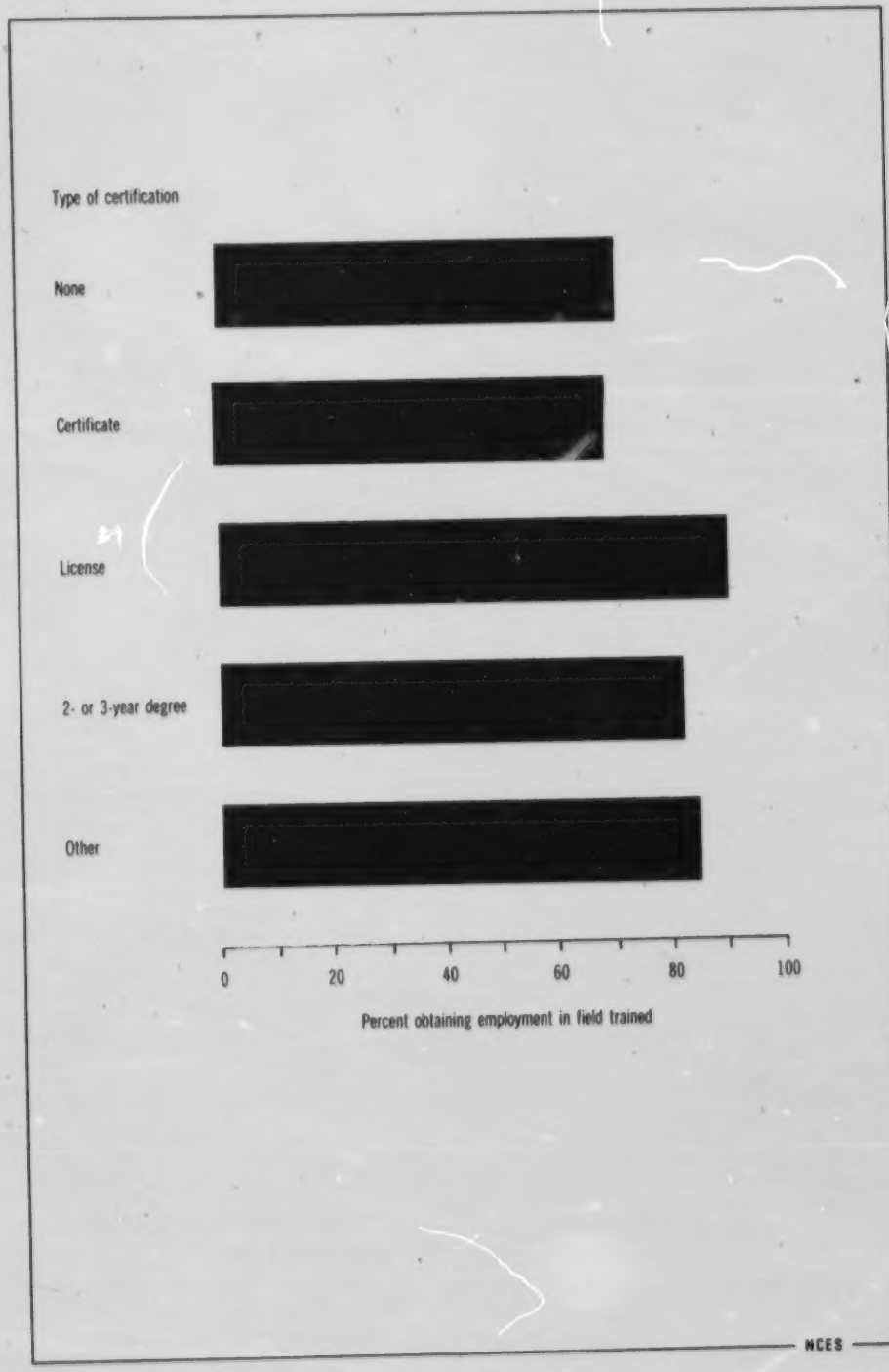


Table 5.15
Annual median income (current dollars) of year-round full-time workers, 25 years old and over, by sex and educational attainment: 1967 to 1977

Year	Sex and educational attainment					
	Male			Female		
	4 years of high school	4 years or more of college	College to high school ratio	4 years of high school	4 years or more of college	College to high school ratio
1967....	$ 7,732	$11,571	1.50	$4,499	$ 6,796	1.51
1968....	8,302	12,224	1.47	4,835	7,220	1.49
1969....	9,100	13,323	1.46	5,280	7,931	1.50
1970....	9,567	13,871	1.45	5,580	8,719	1.56
1971....	9,996	14,351	1.44	5,808	9,162	1.58
1972....	11,073	15,748	1.42	6,166	9,446	1.53
1973....	12,017	16,576	1.38	6,623	9,771	1.48
1974....	12,728	17,716	1.39	7,320	10,525	1.44
1975....	13,542	18,450	1.36	7,777	11,359	1.46
1976....	14,295	19,338	1.35	8,377	12,109	1.44
1977....	15,434	20,625	1.34	8,894	12,656	1.42

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Consumer Income*, P–20, Nos. 60, 66, 80, 85, 90, 97, 103, 105, 114, 116.

Chart 5.15
College Graduates' Income Compared to High School Graduates'

College graduates earn at least 30 percent more annually than high school graduates with no college experience. Ten years ago, however, college graduates earned 50 percent more annually than workers with less education.

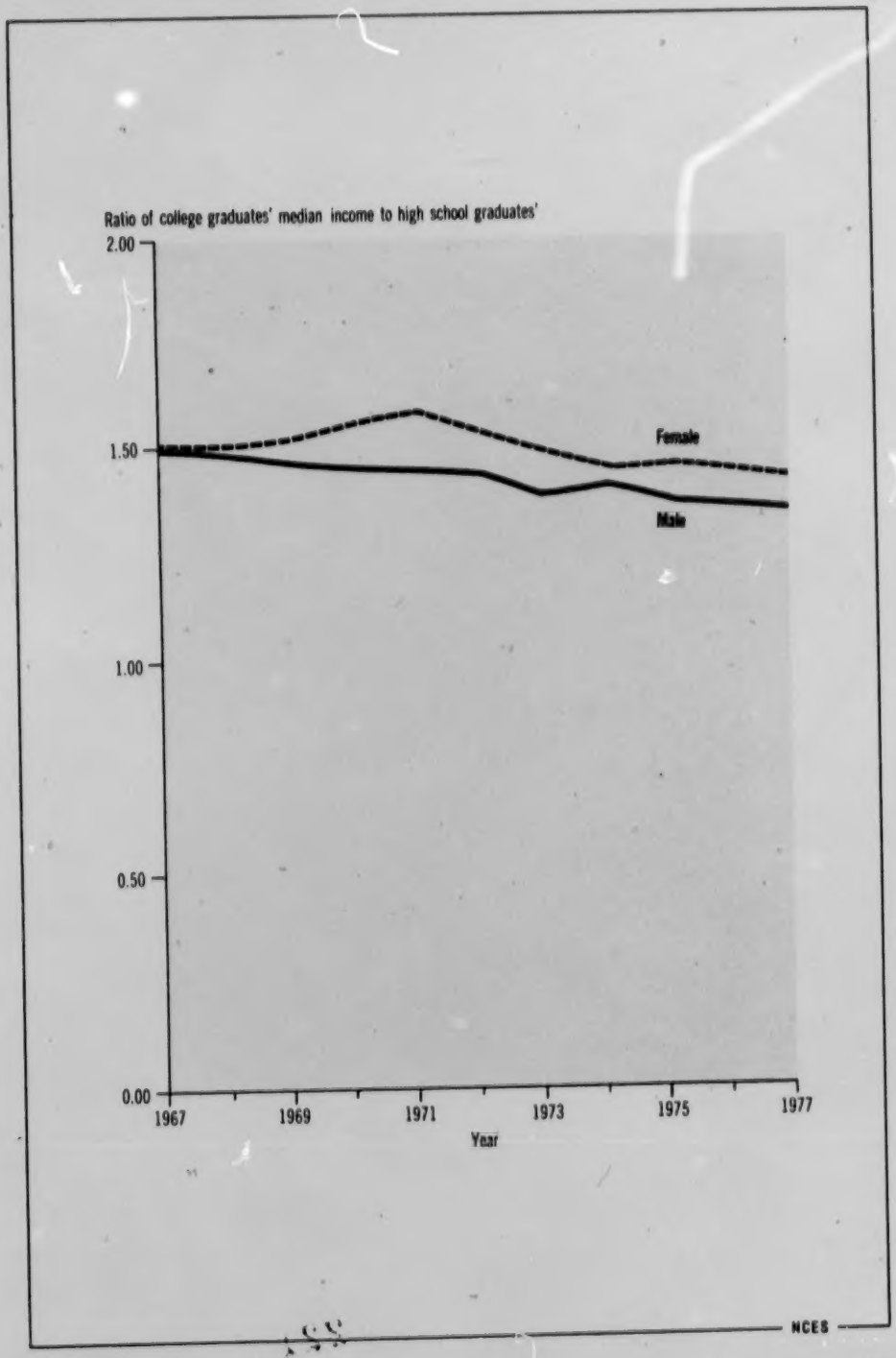


Table 5.16
Occupational distribution of young adults, 4½ years after high school, by sex and educational attainment: 1976

Occupation	All	Male				Female			
		Total	No college	Some college, no degree	Bachelor's degree or higher	Total	No college	Some college, no degree	Bachelor's degree or higher
	Percentage distribution								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Professional or technical	6.3	5.8	2.8	4.2	18.2	6.8	1.9	4.7	25.5
Managerial	4.0	6.2	5.6	5.9	8.6	1.7	1.6	1.6	2.4
Sales	2.3	3.0	2.3	2.7	6.0	1.6	1.6	1.4	2.4
Clerical	9.9	5.1	6.3	4.4	4.1	14.8	17.3	14.2	9.0
Crafts	7.1	13.6	23.8	8.8	2.2	.5	.7	.5	.3
Operative	7.8	13.0	23.7	7.6	2.3	2.7	5.0	1.0	.3
Laborer	3.0	5.7	9.0	3.7	3.1	.4	.5	.3	.3
Service	3.7	3.7	4.3	3.5	2.6	3.7	4.6	3.3	2.1
Farmer	.3	.7	1.0	.5	.3	0	0	0	0
Military	3.9	6.8	7.7	7.1	3.5	1.0	.7	1.5	.5
Homemaker	17.7	.8	1.3	.6	.2	34.6	52.7	23.4	12.6
Student	16.4	18.8	3.5	29.2	26.0	14.1	2.4	25.5	18.4
Part-time work only	13.9	12.4	2.8	19.0	16.5	15.4	8.6	21.0	20.8
Unemployed	3.6	4.6	6.0	2.8	6.5	2.5	2.2	1.6	5.4

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, National Longitudinal Study of the High School Class of 1972, unpublished tabulations.

Chart 5.16
Status of High School Graduates 4½ Years After High School

Among young adult high school graduates with no college experience, most males were craftspersons or operatives and most females were homemakers 4 years after high school graduation.

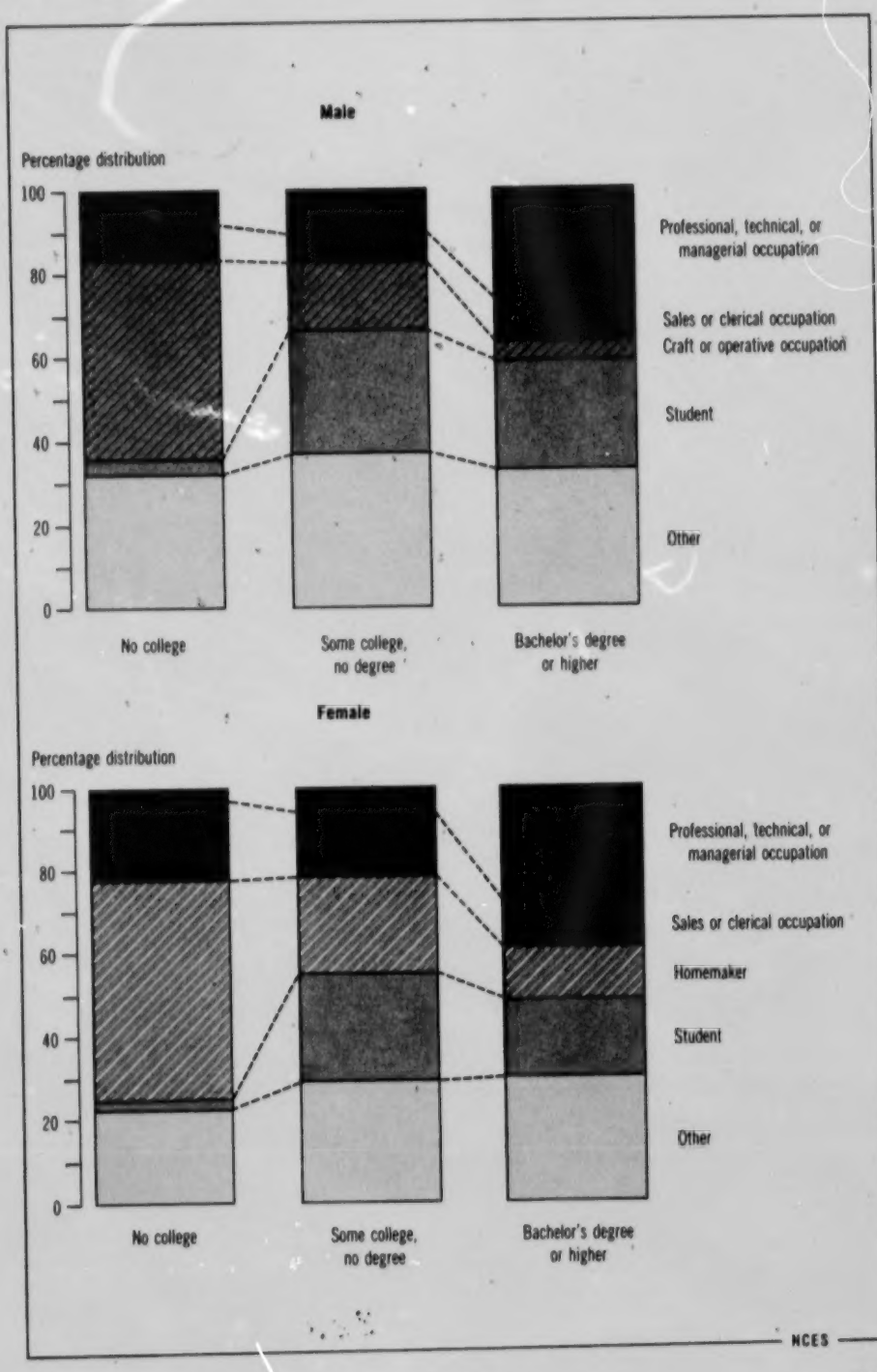


Table 5.17
National average monthly salary offers to bachelor's degree candidates, by sex and field of study: 1973–74 to 1977–78

Field of study	1974		1975		1976		1977		1978	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Business										
Accounting	$ 925	$ 923	$ 980	$ 984	$1,017	$1,021	$1,062	$1,061	$1,124	$1,125
Business, general (including management)	809	756	847	822	876	860	933	908	1,004	962
Marketing and distribution	782	721	810	772	853	814	915	858	977	931
Engineering										
Aeronautical	960	994	1,074	1,071	1,152	1,178	1,227	1,222	1,354	1,345
Chemical	1,042	1,033	1,196	1,197	1,278	1,283	1,386	1,401	1,512	1,517
Civil	967	971	1,064	1,098	1,104	1,153	1,178	1,246	1,280	1,335
Electrical	986	1,001	1,080	1,116	1,154	1,175	1,244	1,262	1,366	1,381
Industrial	978	1,015	1,079	1,089	1,137	1,164	1,255	1,280	1,361	1,383
Mechanical	1,001	1,004	1,122	1,128	1,195	1,226	1,284	1,319	1,402	1,424
Metallurgical	1,003	1,015	1,134	1,098	1,212	1,210	1,313	1,324	1,418	1,421
Mining	NA	NA	NA	NA	NA	NA	[1] 1,395	[1] 1,308	1,500	1,419
Petroleum	NA	NA	[2] 1,287	[2] 1,298	1,399	1,388	1,511	1,517	1,652	1,662
Technology	934	900	1,011	1,051	1,083	1,093	1,175	1,209	1,288	1,301
Humanities	728	655	759	686	816	743	866	754	925	837
Economics	NA	NA	NA	NA	NA	NA	[2] 955	[2] 931	1,031	1,002
Social sciences	766	696	803	725	866	770	904	819	961	843
Sciences										
Agricultural	789	728	817	781	856	826	929	897	978	896
Biological	751	664	800	736	820	795	892	863	1,095	964
Chemistry	891	867	962	944	1,011	1,052	1,103	1,101	1,199	1,176
Computer science	920	895	977	971	1,035	1,045	1,127	1,114	1,269	1,256
Health (medical) professions	727	734	868	789	883	825	961	881	1,045	937
Mathematics	878	871	924	906	992	982	1,081	1,066	1,192	1,177
Other physical and earth sciences	898	878	1,012	901	1,053	1,043	1,069	1,067	1,243	1,223

NA: Not available.

[1] Data taken from 1976–77 pilot study.
[2] Data taken from 1974–75 pilot study.

NOTE: Data are based on information supplied by 140 or more participating colleges and universities throughout the country. The information covers job offers in a broad range of curricula and functional areas, except teaching, within employing organizations in business, industry, government, and non-profit and educational organizations, and maintains confidentiality for the individual, the college, and the employer.

SOURCE: College Placement Council, Inc., "CPC Salary Survey: A Study of Beginning Offers." (Copyright by the College Placement Council, Inc., Bethlehem, PA. All rights reserved.)

Chart 5.17
National Average Monthly Salary Offers to Bachelor's Degree Candidates by Curriculum

In traditionally male-dominated fields, salary offers to female bachelor's degree candidates are generally as high or slightly higher than offers to males. In the humanities and social sciences, however, offers to females fall below those to males.

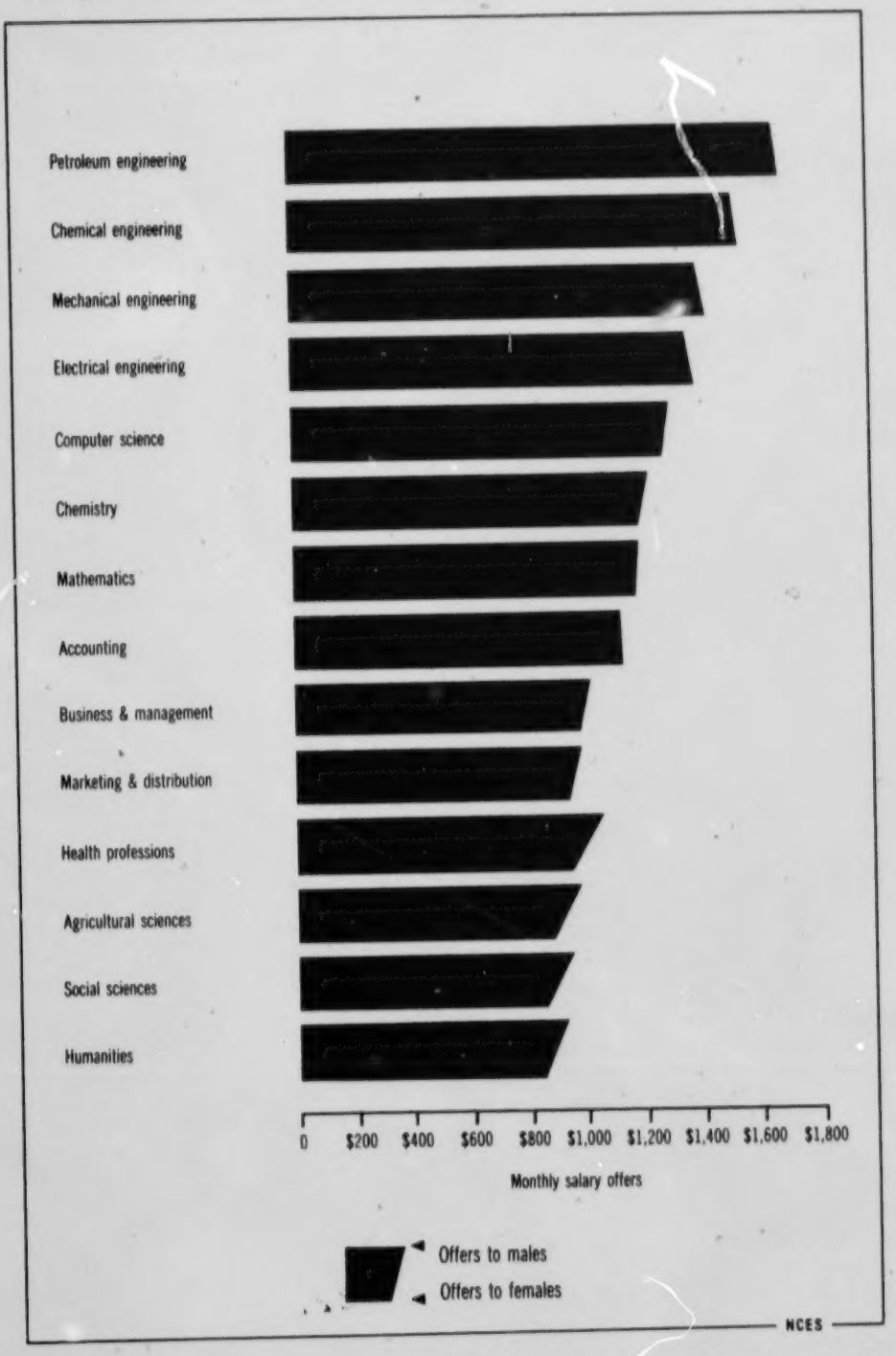


Table 5.18
Labor force participation and employment status of doctoral degree holders, by field of doctorate and sex: 1977

Item	All fields	Physical sciences	Social sciences	Life sciences	Math and computer sciences	Psychology
Total	361,263	80,619	44,031	75,307	17,364	34,177
Number in labor force	340,361	76,220	41,519	70,104	16,671	32,636
Percent in labor force	94.2	94.5	94.3	93.1	96.0	95.5
Percent employed full-time	92.4	92.9	94.3	89.3	96.1	90.5
Percent unemployed	1.6	1.1	1.5	1.4	1.1	1.3
Male	315,298	76,597	37,779	64,839	16,089	26,009
Number in labor force	299,529	72,691	35,712	61,083	15,520	25,093
Percent in labor force	95.0	94.9	94.5	94.2	96.5	96.5
Percent employed full-time	94.4	93.8	95.9	91.7	97.1	97.4
Percent unemployed	1.1	.9	1.0	1.1	.9	.9
Female	45,965	4,022	6,252	10,468	1,275	8,168
Number in labor force	40,832	3,529	5,807	9,021	1,151	7,543
Percent in labor force	88.8	87.7	92.9	86.2	90.3	92.3
Percent employed full-time	77.7	74.0	84.6	73.1	86.8	76.6
Percent unemployed	4.8	5.1	4.0	3.6	2.9	2.6

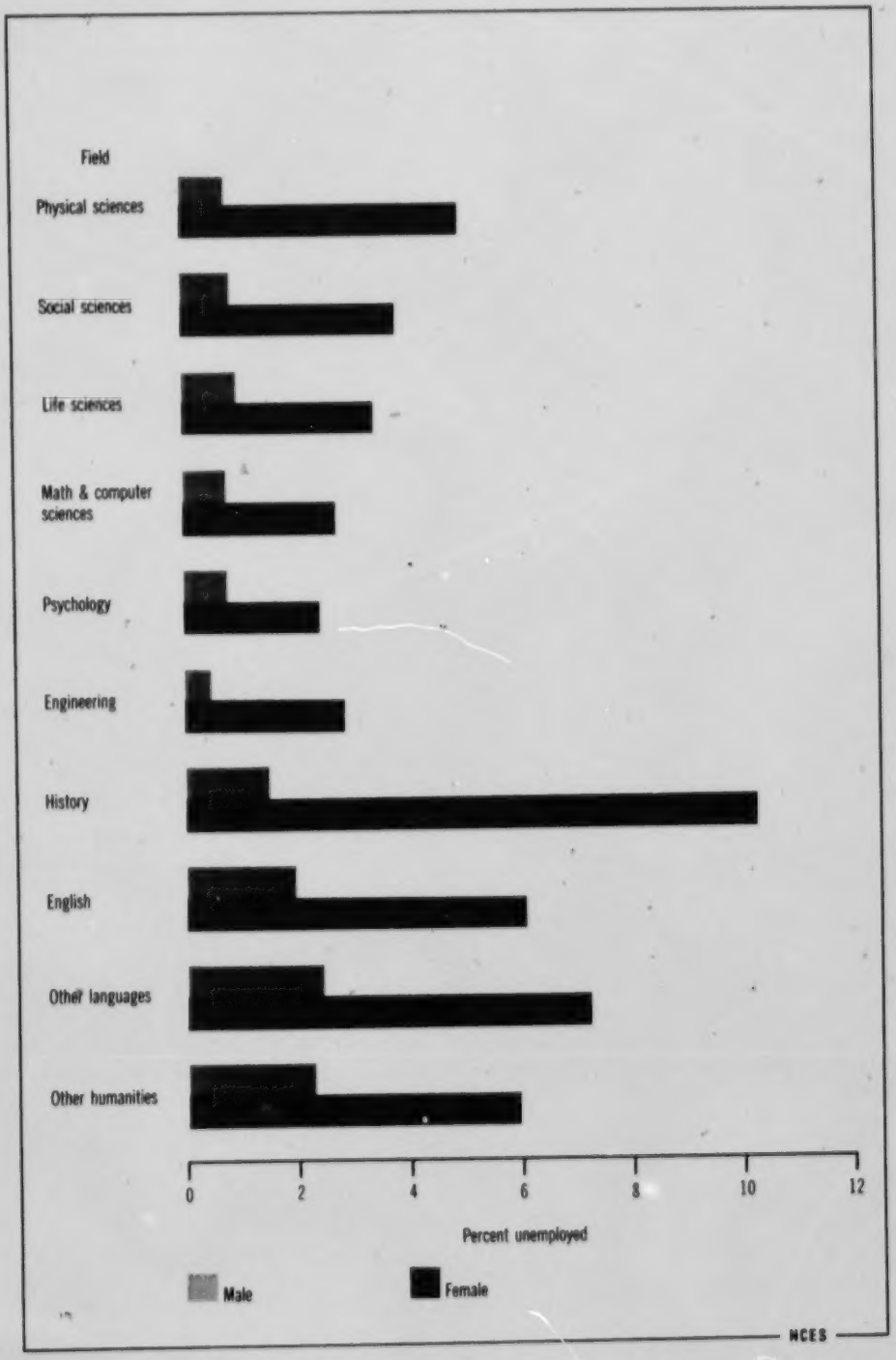
	Engineering	History	English	Other languages	Other humanities
Total	44,329	17,259	18,371	13,209	16,597
Number in labor force	43,072	16,100	16,793	11,735	15,511
Percent in labor force	97.2	93.3	91.4	88.8	93.5
Percent employed full-time	97.4	92.1	90.3	88.4	90.8
Percent unemployed	.6	2.9	3.3	4.1	3.0
Male	44,063	14,791	13,025	8,695	13,411
Number in labor force	42,841	13,952	12,087	7,916	12,634
Percent in labor force	97.2	94.3	92.8	91.0	94.2
Percent employed full-time	97.4	94.8	94.2	93.8	93.3
Percent unemployed	.6	1.7	2.1	2.6	2.4
Female	266	2,468	5,346	4,514	3,186
Number in labor force	231	2,148	4,706	3,819	2,877
Percent in labor force	86.8	87.0	88.0	84.6	90.3
Percent employed full-time	85.3	74.9	80.3	77.1	79.5
Percent unemployed	3.0	10.4	6.2	7.3	7.0

NOTE: Doctoral recipients from January 1934 through June 1976.

SOURCE: National Academy of Sciences, *Science, Engineering, and Humanities Doctorates in the United States: 1977 Profile*, 1978 and unpublished tabulations.

Chart 5.18
Unemployment of Doctoral Degree Holders by Field and Sex

Although female doctoral degree holders have much higher labor force participation rates than women in general, their rates are lower than those of male doctoral holders. Female unemployment rates, however, are higher than male rates in all doctoral fields.



Chapter 6
The Status of Minorities and Women in Higher Education

Various initiatives have been taken in education to promote change in the wider society. One such initiative in recent decades has been the expansion of learning opportunities to groups that in the past have been excluded from the American mainstream. Providing equal access to higher education has been seen as a first step toward socio-economic betterment for minorities and independence for women.

This chapter discusses trends in participation of minorities and women in higher education and in society as a whole. It begins with an examination of public opinion surveys which suggest the outlook of the public toward racial and sexual equality. By presenting trend data on participation and attainment, it portrays recent changes in both the educational and economic status of minorities and women. It concludes by exploring some current developments which may contribute to equal access to higher education.

Public Opinion

Recent nationwide surveys provide some insights into people's attitudes toward racial and sexual equality. Although trend data are seldom available to document attitudinal change, some shifts in attitudes can be inferred.

According to a 1978 Harris poll, whites generally support the concept of equal treatment for minorities and women. More than two-thirds of the white respondents concurred with the statement that "after years of discrimination, it is only fair to set up special programs to make sure that women and minorities are given every chance to have equal opportunity in employment and education." Yet the responses of whites to other items in the survey suggest some ambivalence. An overwhelming majority of whites expressed the opinion that minorities and women should not become dependent on special treatment.

The opinions of whites and blacks differ substantially on the question of whether equal educational opportunity currently exists in their communities, according to a 1978 Gallup Poll (entry 6.1). Of the blacks surveyed, 38 percent responded that minority children have the same educational opportunities as white children do in their communities. In contrast, 86 percent of the whites indicated that opportunities were equal. Although responses of northern whites and southern whites were much the same, responses of blacks differed by region. Southern blacks were much more likely than their northern counterparts to respond that equal educational opportunity existed in their community—54 percent compared to 21 percent.

Results from a 1962 Gallup Poll suggest that these latest responses signal a regional shift in black attitudes. In 1962, about 6 out of 10 southern blacks responded that equal educational opportunities did not exist in their community. Although data were not reported specifically for northern blacks in 1962, the responses of non-southern blacks indicated that in 1962 about 60 percent believed that equal educational opportunity did exist in their communities.

Past enrollment data indicate that traditionally the sons of the family, rather than the daughters, were encouraged to attend college. According to a recent General Mills survey of the American family, the attitudes underlying this practice are changing (entry 6.2). Most parents responded that the best student, regardless of sex, should be given the opportunity to go to college. While fathers were not as egalitarian in their attitudes as mothers, an overwhelming majority of both parents expressed the opinion that the decision should be based on merit rather than on sex.

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Of additional interest is a recent Gallup Poll survey of teenagers' attitudes toward education. Results of the opinion survey indicate that young people generally affirmed that the United States is still the land of opportunity. More than three-fourths of the teenagers agreed with statement that "almost everyone in America today can get ahead if he or she wants to" (entry 6.3). This opinion held regardless of the respondent's race, sex, place of residence, and parental education. Only between the younger teenagers and the older teenagers was there any variation in responses; the 13- to 15-year-olds were more positive in their responses than the 16- to 18-year-olds.

Educational Participation

Minorities and women are being educated in greater numbers today. One indicator of this progress can be seen in the increased proportions of the population having graduated from high school within age cohorts (entry 6.4). From the oldest to the youngest adult cohort, the proportions having graduated from high school in all racial/ethnic groups have increased substantially while the disparities among the groups have diminished. Among the oldest cohort, persons 65 years old and over, whites were 2½ times as likely as blacks and Hispanics to have completed high school. The disparities are considerably less among the 25- to 29-year-old group. However even among this younger cohort, fewer than three-fourths of the blacks, and only 58 percent of persons of Hispanic origin had completed high school in 1977.

Differences in educational attainment are less evident by sex. The proportion of women who attained at least a high school education does not differ appreciably from the proportion of male graduates. Differences among racial/ethnic groups follow similar patterns for females as for males; among each age cohort, white females were more likely to graduate from high school than black or Hispanic females.

Minorities and women are seeking further schooling at unprecedented rates. As chapter 3 notes, minority participation in higher education increased during the 1970's. In 1977, the college enrollment rate of blacks approximated that of whites, while the rate of persons of Hispanic origin was somewhat lower (see entry 3.10 in chapter 3). If the participation rate were calculated as the proportion of high school graduates enrolled in college, the rates of blacks and Hispanics would exceed that of whites. The smaller proportion of blacks and Hispanic high school graduates partially accounts for their lower representation in college.

As chapter 3 also points out, the participation of women in higher education has risen substantially over the last seven years. Females in 1977 comprised 49 percent of the college student body and 52 percent of the first-time entering students. Their representation also has increased at graduate and professional schools. In 1977, females comprised almost one-third of the total graduate enrollment and nearly half of the part-time graduate enrollment.

Data on degrees awarded to racial/ethnic groups show that most minorities are not represented in proportion to their college-age population. Blacks are underrepresented at all degree levels (entry 6.5). While representing 12.4 percent of the college-age population, they account for 6.4 percent of the bachelor's degrees, 6.5 percent of the master's degrees, 3.6 percent of the doctoral degrees, and 4.3 percent of the first-professional degrees. Persons of Hispanic origin, who comprise 4.9 percent of the college-age population, were underrepresented at the bachelor's (2.8 percent), master's (2.0 percent), doctoral (1.2 percent), and first-professional (2.2 percent) levels.

On the other hand, Asian American/Pacific Islander degree recipients exceeded their population representation of less than 1 percent. This group accounted for over 1.5 percent each of the bachelor's, master's, doctoral, and first-professional degrees.

Non-resident aliens comprised 2.0 percent of the total enrollment in colleges in 1976. Their representation in degrees awarded was greatest at the master's and doctor's level. Twelve percent, or almost one doctorate in eight, were awarded to non-resident aliens. The total of 4,071 doctor's degrees awarded to foreign students compares to 2,372 doctorates awarded to all minority U.S. citizens.

Education, business, and social sciences were the three fields with the highest percentage of bachelor's degrees (entry 6.6). While education was the single most popular field for all racial/ethnic groups, a larger percentage of blacks and Native Americans received their degrees in this field than did other racial/ethnic groups. Similarly, a larger percentage of black, Hispanic, and Native American graduates received their degrees in social sciences than did white or Asian American/Pacific Islander graduates.

The concentration of black graduates majoring in education is even more pronounced in traditionally black institutions. These 106 institutions, founded specifically for the education of blacks, confer the largest proportion of their degrees in the education field, 31 percent of their bachelor's degrees, 75 percent of their master's degrees, and 24 percent of their doctorates.

Appreciable increases in the proportion of degrees awarded to females have occurred at the higher degree levels (entry 6.7). In 1965, women received one-third of the master's degrees awarded; by 1977, they represented almost half (47.1 percent) of all master's degree recipients. During the same period, women's representation among doctoral degree recipients more than doubled, from 10.8 to 24.3 percent. Growth at the first-professional degree level has been even more substantial. Since 1965, women have more than tripled their proportion of the total first-professional degrees awarded—to 18.7 percent in 1977.

Despite increased participation in higher education, women still receive degrees in the fields which have traditionally had high proportions of female graduates. In 1977, degrees awarded to women were concentrated in the areas of education, social sciences, and social services. The fields most often chosen by women at the bachelor's level were education and social sciences. These fields alone accounted for more than one-third of all bachelor's degrees awarded to women. At the master's level, the most popular fields were education and public affairs and services. At the doctoral level, the fields most often chosen were education, psychology, letters, and social sciences. Education alone accounted for more than one-third of all doctorates awarded to females in 1977.

The concentration of women in relatively few fields is also reflected in their share of degrees awarded within specific fields (entry 6.8). Although women comprised 46 percent of all bachelor's degree recipients in 1977, their share of bachelor's degrees by field ranged from 96 percent in home economics to less than 1 percent in military sciences. The concentration of female degree recipients in traditionally feminine fields has changed little since 1971. Between 1971 and 1977, women increased their representation at the master's and doctoral levels in two traditionally feminine fields—education and the health professions. Yet, substantial gains by women have been made in at least one male-dominated field—business and management. Although their representation in business and management remained low in 1977, women have registered appreciable increases at all levels since 1971.

Women also increased their share of first-professional degrees in all fields from 1971 to 1977 (entry 6.9). Women's representation more than doubled among medical degree recipients and more than tripled among law degree recipients.

According to Howard University's Institute for the Study of Educational Policy, slightly more than 3 percent of the faculties at colleges and universities in 1960 were blacks, including those employed in traditionally black institutions. This proportion changed little through the 1960's. In 1974 the proportion of blacks on faculties was an estimated 3.5 percent, and in 1977 it was 4.4 percent. While these data show gradual increases in the percentage of black faculty members, the proportion does not approach the 11 percent that blacks represent of the total work force.

The status of women in faculties of higher education has remained relatively unchanged in the last decade. Women comprise about one-fourth of college faculties, a proportion that has remained fairly constant since 1960. This represents, in fact, a lower proportion of female faculty than taught in 1930.

Female representation on faculties appears to be inversely related to the status and salary of the position. In 1978, women comprised half of all faculty at the rank of instructor yet one-tenth of those with full professorial status. While women hold 25.4 percent of the full-time faculty jobs, they occupy only 18.3 percent of the university positions. Representation of women on faculties is largest at the two-year college level; more than one-third of these jobs are held by women. In comparing women's and men's faculty salaries, at all ranks, men earn considerably more than women (see entry 3.15 in chapter 3). Disparities are greatest at the rank of full professor, with males earning $2,000 more than females in public institutions and almost $4,000 more in private institutions.

Economic Participation

With changing attitudes, heightened participation, and gradual reform, the status of minorities and women may approach equity in coming generations. Data on median income levels provide an indication of the current differences in earning power among racial groups and between the sexes (entry 6.10). Among full-time wage and salary workers, whites averaged almost $50 more weekly than minorities in 1978. However, the earning differential between whites and minorities has decreased somewhat in 11 years. In 1967, minorities earned wages and salaries averaging 70 percent of those of whites; in 1978, they earned approximately 80 percent.

Disparities in earnings are more evident between the sexes than among the races. In 1978, the median weekly earnings of females working full-time were $166, compared to $272 earned by males or about 61 percent of the men's earnings. This ratio has shown little change since 1967.

Earning differences between whites and minorities are less apparent among females. Minority women earned $158, or 5 percent less than the $167 earned by white women. In comparison the usual weekly earnings of white males were $279, while those of minority males were $218, or 22 percent less.

Within occupational categories of full-time year-round workers, women consistently earned less than men (entry 6.11). Female professional/technical workers earned at least one-third less than their male counterparts in 1977. Female sales workers fared worse; they earned half the salary of male sales workers, down slightly from the proportion earned in 1962. Within educational levels, too, males continue to hold an earnings advantage (see entry 5.15 in chapter 5). Even at the highest educational level, women's earnings are only 70.6 percent of the males' earnings. Comparing women's and men's income levels across categories, one sees that the earnings of female college graduates are still less than those of male high school graduates.

While these data on earnings are revealing, they do not take into account the numbers of minorities and women who are not fully employed. The inclusion of part-time workers, the unemployed, and persons who are not in the work force would change the income distribution considerably. In this case, the gap in income levels between whites and blacks, and between males and females, would be substantially wider for at least three reasons: 1) blacks and women more often fill those jobs at the lowest end of the economic scale; 2) even with governmental cash assistance included as income, more than one-fourth of all black families remained in poverty in 1975, compared with less than 8 percent of white families; and 3) a greater proportion of persons under the official guideline for poverty are women.

A National Center for Education Statistics survey of recent college graduates yields information about the employment status of college educated minorities and women (entry 6.12). Among 1976–77 bachelor's degree recipients, men's median earnings were $12,700 per year, compared to $10,300 per year for women. White males earned slightly higher average salaries than black males, $12,700 compared to $12,000. The earning advantage of whites was reversed among women. At the master's level, black males and females averaged somewhat higher salaries than their white counterparts.

Caution is suggested in interpreting these data because the survey sampled only recent college graduates. The employment characteristics of the sample, therefore, did not reflect those of the general population. The underrepresentation of blacks and women in higher education, and the higher collegiate attrition rate of minorities and women must be kept in mind. Thus, while minorities and women may seem to be faring well from the results of this study, these income levels refer to a specific population subgroup, recent college graduates.

Part of the earning disparity between male and female college graduates may be explained by the fact that men and women major in different fields. Yet an examination of the earnings of men and women within the same college field indicates that differences in college coursework cannot account for all the variation (entry 6.13). Males averaged at least $200 more annually than females who majored in the same field. In the health professions, business and management, the social sciences and public affairs, and communications, more than $2,000 separated the annual earnings of males from the earnings of females. Only in one field, engineering, in which women comprised less than 5 percent of the degree recipients, did the salaries of women exceed those of males.

An examination of the underemployment of these recent college graduates modifies these findings somewhat. To be classified as underemployed, a graduate had to be working full-time in a job that was not professional, technical, managerial, or administrative and when asked, had responded that the job did not require a college degree. To exclude respondents who were working full-time while in graduate study, the definition further stipulated that the respondent not be enrolled in school.

Female graduates were slightly less likely than male graduates to indicate that they were underemployed in the year following graduation, 23.7 percent compared to 19.0 percent. In only three fields, psychology, humanities, and communications, were women more likely to be underemployed. In addition, underemployment of both males and females was lower than average in the female-dominated fields of education and the health professions.

Equalizing Access

Although young women may approach parity with young men in the level of education attained, they are underrepresented in certain traditionally masculine fields, as this chapter has shown. Women are pursuing advanced study at unprecedented rates, yet they are graduating in fields which have traditionally attracted a disproportionate share of women. Few inroads have been made in the traditionally masculine fields of engineering and the physical sciences.

The concentration of women in a few academic fields in college persists in part because of the preparation females received at the precollege level. Young females traditionally were not encouraged to take advanced coursework in mathematics and the hard sciences. Several college fields have attracted few females because they required advanced high school math and science courses as prerequisites.

Data from the National Longitudinal Study of the High School Class of 1972 suggest that this trend was still evident in the early 1970's (entry 6.14). Female college students from this study averaged less high school coursework in math and science than their male counterparts. Only those few females who were majoring in male-dominated fields in college, had taken math and science coursework in high school comparable to that taken by males.

Some of the educational disparities between men and women may be diminishing, however, according to data supplied by HEW's Office for Civil Rights (OCR). These data, collected in 1976, present national estimates of enrollment by sex in courses such as home economic and industrial arts, which have traditionally enrolled a disproportionate percentage of a single sex (entry 6.15). Results of the OCR survery indicate that sex-stereotyping still exists in some courses. Almost three-fourths of the students in home economics classes were female while less than one-fourth of the students in industrial arts classes were female.

At the highest level of coursework in mathematics and science, however, females comprised 49 percent of the students. This is especially noteworthy, since as the NLS data indicate, at the beginning of the decade females were underrepresented in the more advanced math and science levels. The OCR findings suggest that the sex differences in educational experience may diminish as this age cohort matures.

New programs aimed at decreasing the differences in educational experiences may be paving the way for future equality for minorities and women. An indicator of the commitment to reform is evident in the special programs that have been established for minorities and women in higher education. To find out about the prevalence of such programs, the American Council on Education, through its Higher Education Panel, conducted a survey of 311 colleges and universities that award a professional degree, doctoral degree, or some other degree beyond the master's (entry 6.16). The results of this survey indicate that nearly half of the doctoral and professional institutions offered some form of special recruitment, academic, or financial aid program to benefit minority or female graduate students. The degree of involvement varied by the control of the institution as well as by the type, with universities and public institutions being the most active. Furthermore, certain fields of graduate study, notably law and medicine, reported an above average level of effort.

Table 6.1
Public opinion on equality of educational opportunity, by race and geographical area: 1978

Responses	"In your opinion, do black children and other minorities in this community have the same educational opportunities as white children?"					
	White			Black		
	All	Northern	Southern	All	Northern	Southern
	Percentage distribution					
Total.....	100	100	100	100	100	100
Yes.....	86	86	85	38	21	54
No.....	8	8	10	52	67	37
Don't know...	6	6	5	10	12	9

SOURCE: Phi Delta Kappa, Inc., *Phi Delta Kappan*, "The Tenth Annual Gallup Poll of the Public's Attitudes Toward the Public Schools," September, 1978.

Chart 6.1
Public Opinion on Equality of Educational Opportunity

Blacks were much less likely than whites to respond that minority children in their communities have access to equal educational opportunities. Northern blacks were the least likely to indicate that minorities have equal opportunities.

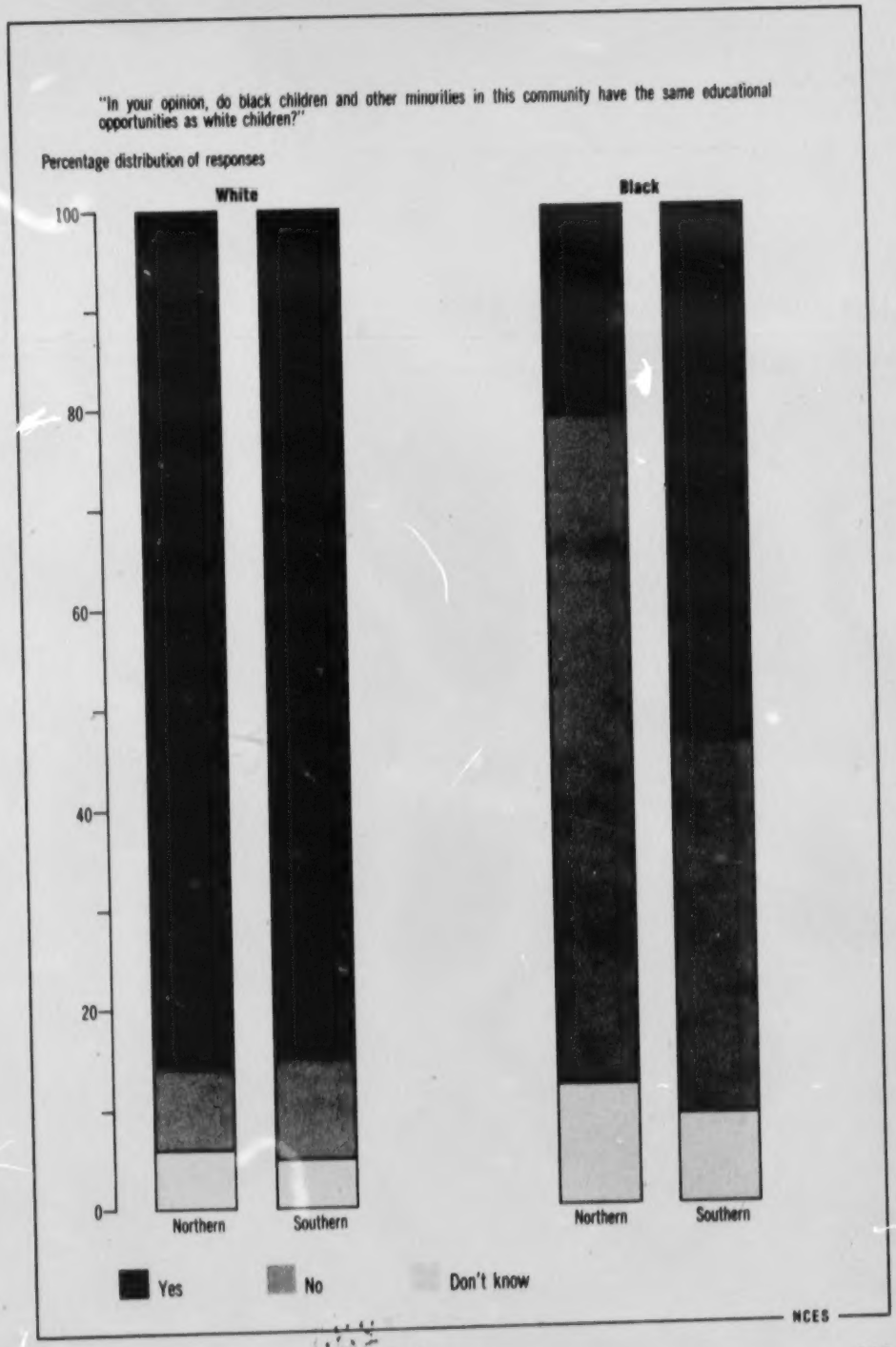

Table 6.2
Parental attitudes on whether sending children to college should be based on sex or merit: 1976

Responses	"Which children should go to college—the sons or the best students?"		
	Total	Fathers	Mothers
	Percentage distribution		
Total.....	100	100	100
Sons.....	31	37	25
Best students...	65	58	70
Not sure.....	4	5	5

SOURCE: General Mills, Inc., The General Mills American Family Report, *Raising Children in a Changing Society*, 1977.

Chart 6.2
Parental Attitudes on Whether Sending Children to College Should Be Based on Sex or Merit

Most parents would favor sending the better student to college regardless of sex. Mothers were slightly more likely to respond that the decision should be based on merit rather than on sex.

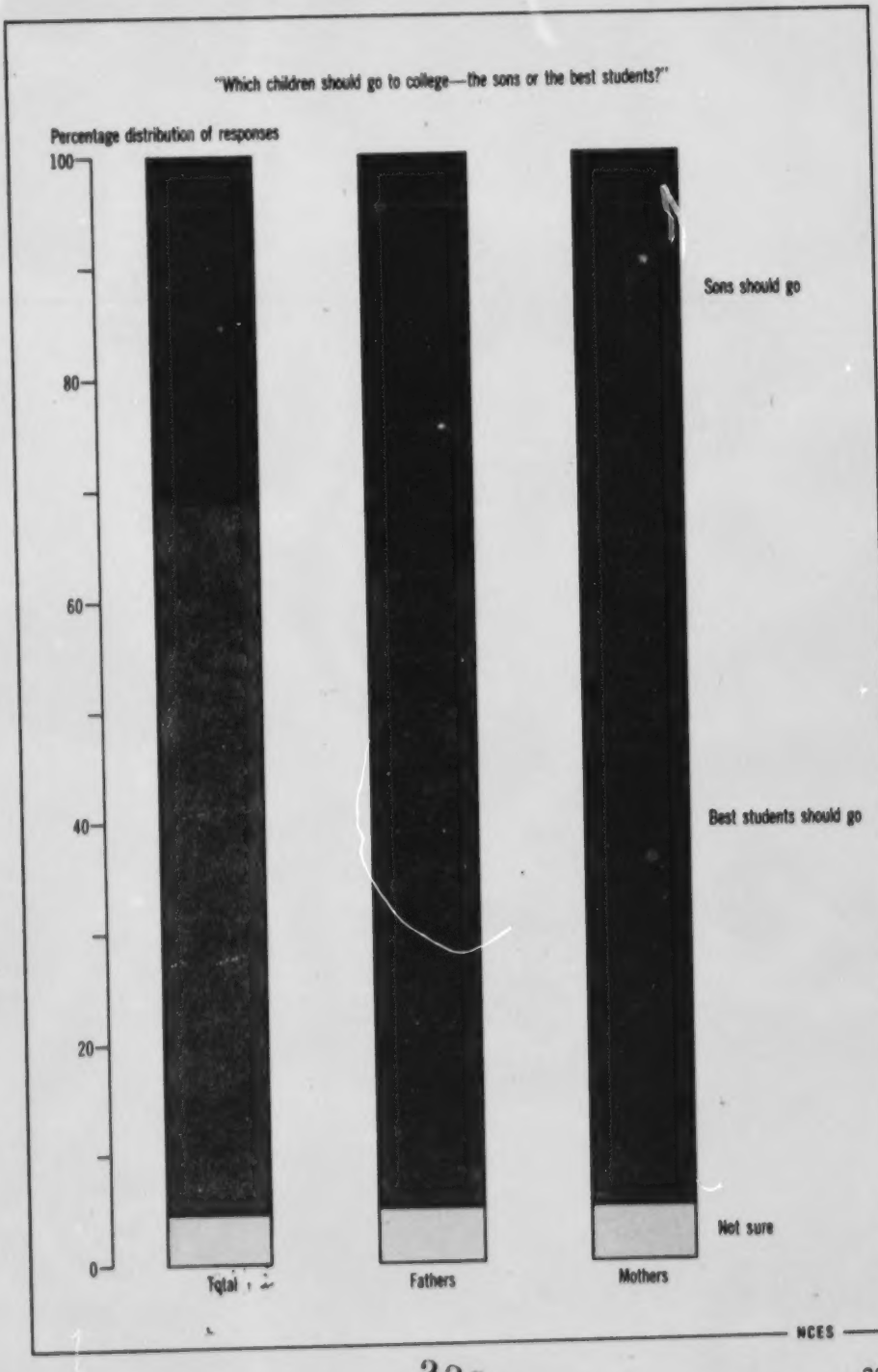

Table 6.3
Attitudes of 13- to 18-year-olds toward "getting ahead": 1978

Characteristic	"America has often been called the "Land of Opportunity." Do you think almost everyone in America today can get ahead if he or she wants to?"			
	Total	Yes	No	Don't know
	Percentage distribution			
Total	100.0	78.8	19.3	1.9
Age				
13 to 15 years old	100.0	80.9	17.6	1.5
16 to 18 years old	100.0	76.5	21.1	2.4
Sex				
Male	100.0	78.3	19.8	1.9
Female	100.0	79.3	18.8	1.9
Race				
White	100.0	79.0	19.4	1.6
Non-white	100.0	77.9	18.5	3.6
Academic standing				
Above average	100.0	77.5	20.8	1.8
Average or below average/don't know	100.0	80.4	17.6	2.1
Occupation of family wage earner				
White-collar	100.0	79.8	18.3	1.8
Blue-collar	100.0	79.1	19.6	1.3
Parental education				
Less than college	100.0	80.3	18.3	1.5
Some college	100.0	77.6	20.6	1.8

NOTE: Details may not add to totals because of rounding.

SOURCE: Gallup Poll and Charles F. Kettering Foundation, "The Attitudes of America's Youth Toward the Public Schools," 1978, advance data.

Chart 6.3
Teenagers' Attitudes Toward "Getting Ahead"

Regardless of their backgrounds, teenagers overwhelmingly responded that in America almost everyone can get ahead with effort.

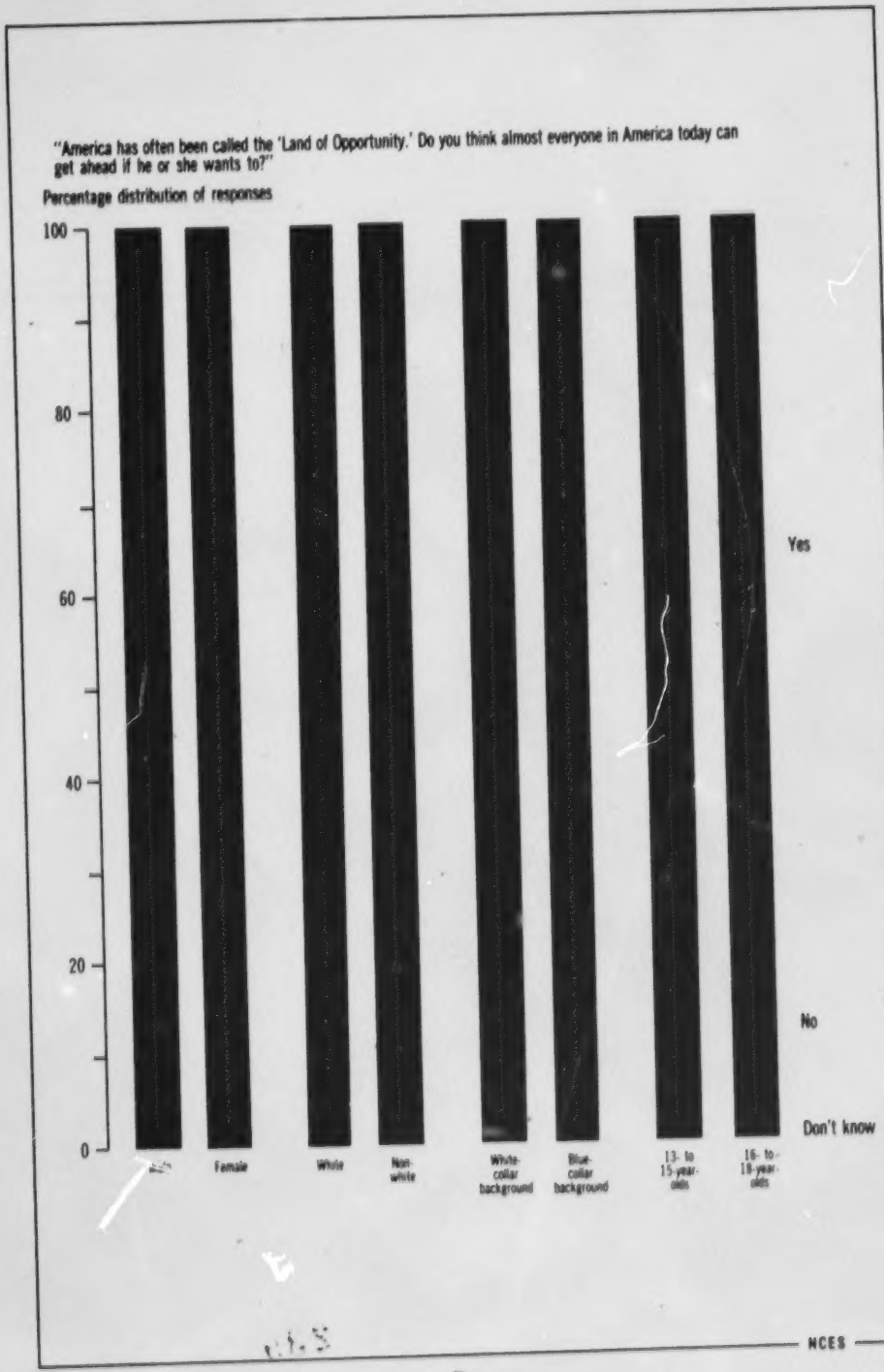

Table 6.4
Percent of persons 25 years old and over completing at least 4 years of high school, by age and racial/ethnic group: 1977

Racial/ethnic group	Percent by age group						
	Total	25 to 29	30 to 34	35 to 44	45 to 54	55 to 64	65 and over
Total	64.9	85.4	81.0	73.6	64.3	56.2	37.5
White	67.0	86.8	82.6	75.8	67.5	59.3	39.7
Black	45.5	74.5	67.2	55.7	35.6	26.1	14.8
Hispanic origin [1]	39.6	58.1	49.0	41.0	33.0	22.7	16.2
Male	65.6	86.6	82.4	74.3	62.5	55.5	36.0
White	67.5	87.6	83.5	76.2	65.7	58.4	38.0
Black	45.6	77.5	69.3	55.7	31.1	25.5	15.6
Hispanic origin [1]	42.3	62.1	53.6	43.7	35.7	20.8	19.4
Female	64.4	84.2	79.7	73.0	66.0	56.8	38.5
White	66.5	86.0	81.7	75.3	69.2	60.0	40.9
Black	45.4	72.0	65.3	55.7	39.2	26.6	14.1
Hispanic origin [1]	37.2	54.8	45.2	39.0	30.8	24.1	13.8

[1] Categories are not discrete (e.g., a person may be classified in both white and Hispanic origin categories).

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Educational Attainment in the United States: March 1977 and 1976*, Series P–20, No. 314, 1977.

Chart 6.
High School Graduates by Age Group

Differences in educational attainment diminish substantially among racial/ethnic groups from the oldest to the youngest age cohorts. Attainment levels by age and by racial/ethnic group follow similar patterns for females and males.

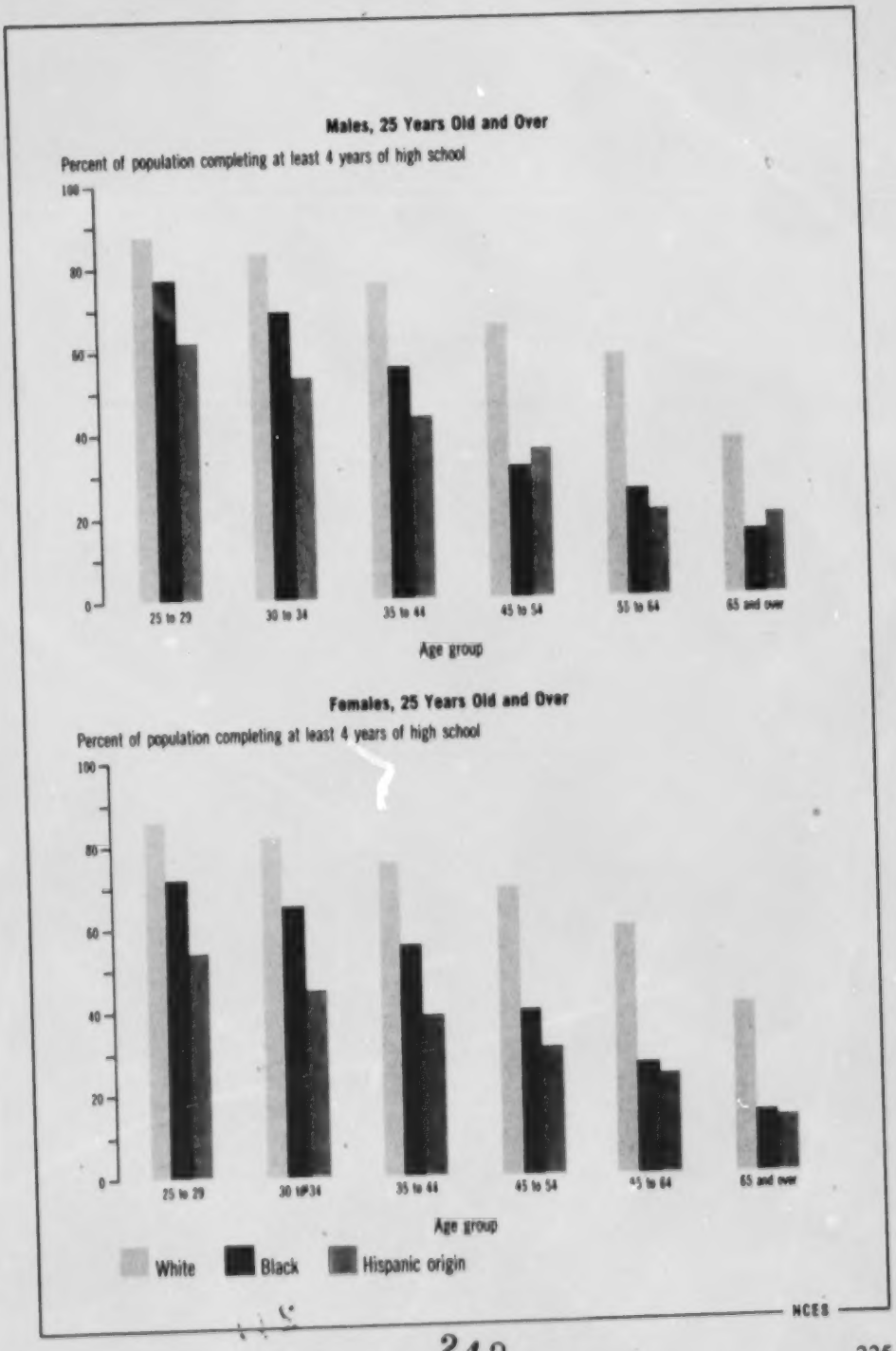

Table 6.5
Representation of racial/ethnic groups among degree recipients, by level of degree: Aggregate United States, 1975-76

Item	Total	White [1]	Black [1]	Hispanic	American Indian/ Alaskan Native	Asian American/ Pacific Islander	Non-resident alien
			Percentage distribution				
College-age population...	100.0	81.5	12.4	4.9	0.5	0.7	—
Bachelor's.....	100.0	87.4	6.4	2.8	0.4	1.5	1.6
Master's.....	100.0	84.5	6.5	2.0	0.3	1.5	5.2
Doctor's.....	100.0	81.0	3.6	1.2	0.3	1.9	12.0
First-professional.....	100.0	90.2	4.3	2.2	0.3	1.7	1.3

[1] Non-Hispanic.
NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, "Earned Degrees Conferred, 1975–76 Summary Data, by Racial/Ethnic Categories," unpublished.

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Chart 6.5
Racial/Ethnic Group Representation Among Degree Recipients

Whites and Asian American/Pacific Islanders are better represented among degree recipients than members of other racial/ethnic groups. Nonresident aliens receive a substantial share of doctor's degrees.

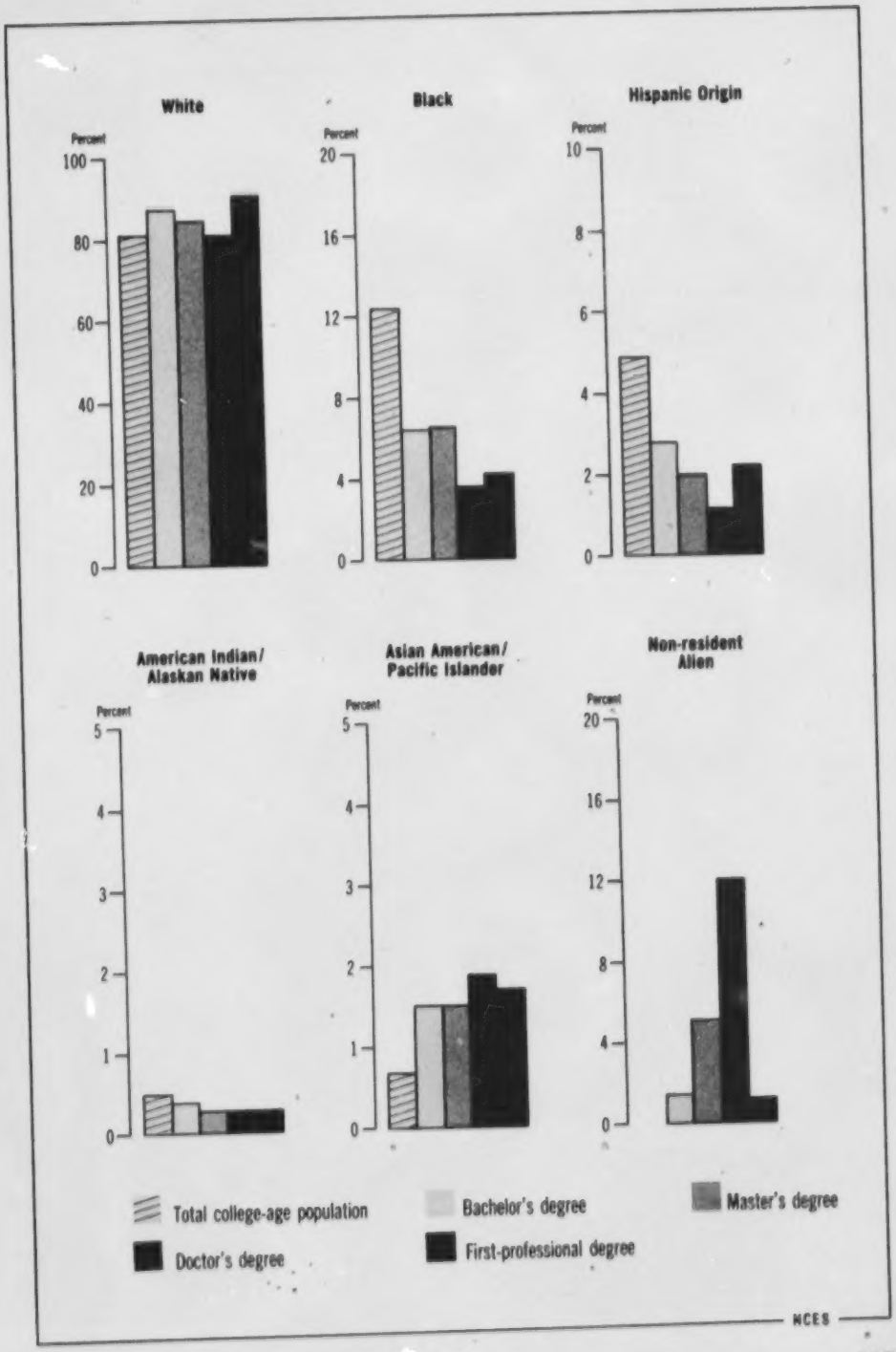

Table 6.6
Distribution of bachelor's degrees conferred among selected academic fields, by racial/ethnic group: Aggregate United States, 1975-76

Academic field	White [1]	Black [1]	Hispanic origin	American Indian/ Alaskan Native	Asian American/ Pacific Islander	Non-resident alien
			Percentage distribution			
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Education.....	16.6	24.0	16.9	21.2	7.8	5.1
Social sciences...	13.3	18.6	15.8	14.7	12.6	12.1
Business.....	15.4	16.0	15.2	12.2	17.4	19.8
Engineering.....	4.9	2.3	4.7	4.3	8.1	21.1
Other.....	49.8	39.1	47.4	47.6	54.1	41.9

[1] Non-Hispanic.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, "Earned Degrees Conferred, 1975–76 Summary Data, by Racial/ Ethnic Categories," unpublished.

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Chart 6.6
Distribution of Bachelor's Degrees Among Selected Fields by Racial/Ethnic Group

Representation in various degree fields differs among racial/ethnic groups. A greater proportion of black and Native American degree recipients earn their degrees in education than other minorities and white degree recipients.

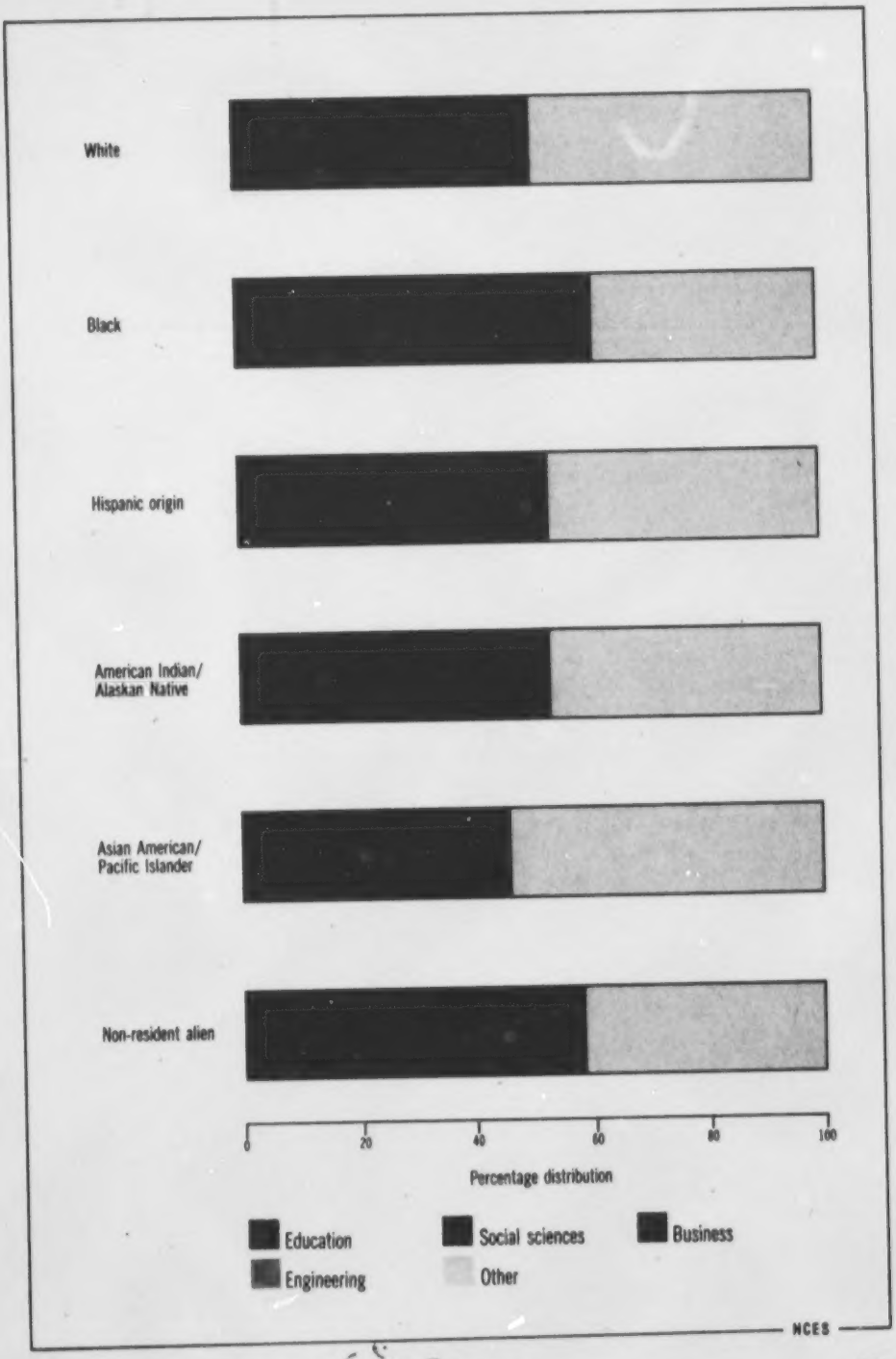

Table 6.7
Percent of degrees awarded to females, by level of degree: School years ending 1965, 1970, and 1977

Level of degree	1965	1970	1977
		Percent	
Bachelor's	42.4	43.1	46.1
Master's	33.8	39.7	47.1
Doctor's	10.8	13.3	24.3
First-professional	3.5	5.0	18.7

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Projections of Education Statistics to 1986–87*, 1978.

Chart 6.7
Percent of Degrees Awarded to Females

Female representation among degree recipients has increased gradually at the bachelor's level and rapidly at the advanced degree levels. Even so, females earn fewer than one-fourth of all doctor's and first-professional degrees.

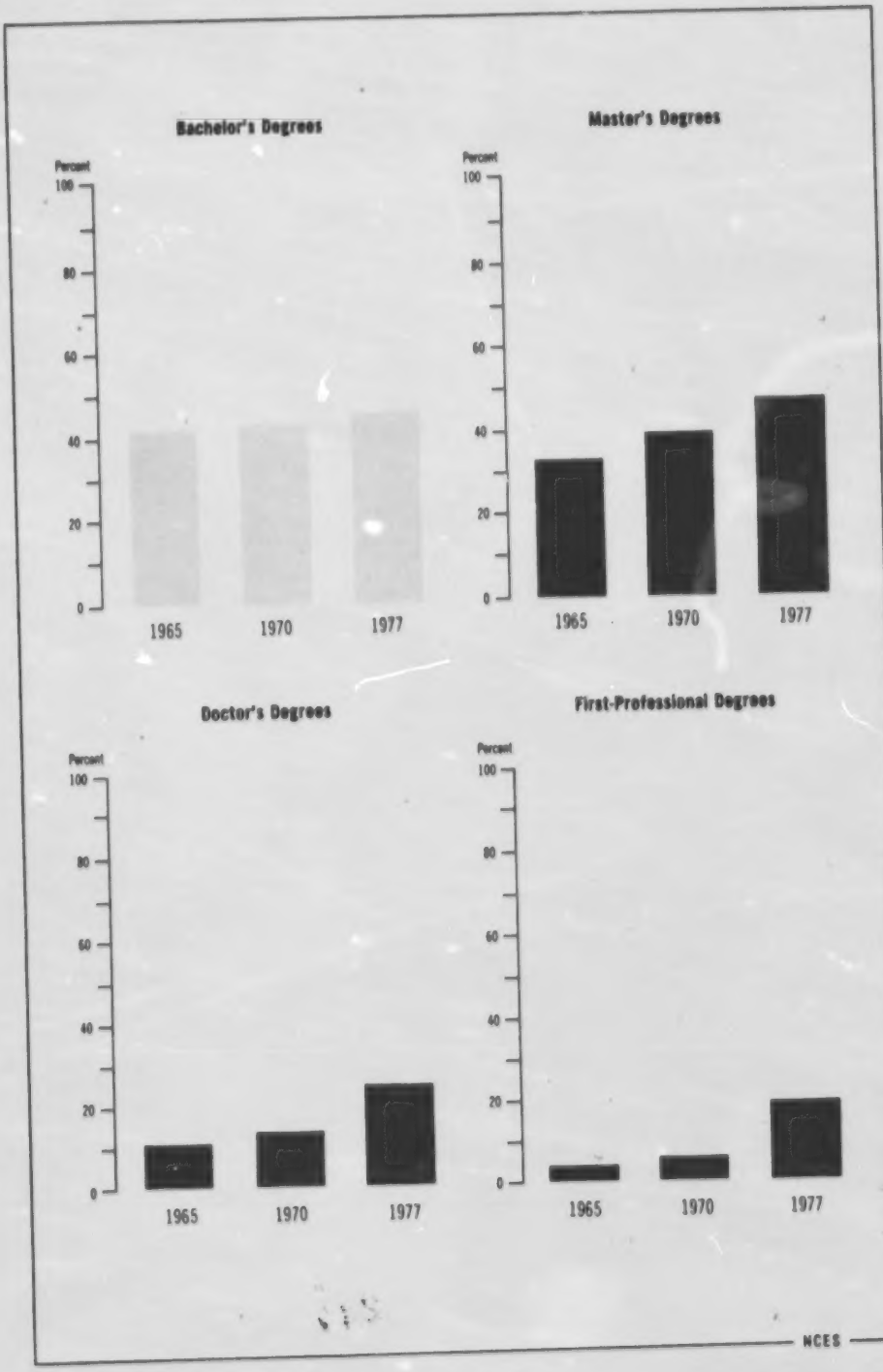

Table 6.8
Percent of females among degree recipients, by level of degree and discipline division: Aggregate United States, 1971 and 1977

Discipline division	Bachelor's		Master's		Doctor's	
	1971	1977	1971	1977	1971	1977
	Percent female					
Total	43.4	46.2	40.1	47.1	14.3	24.3
Agriculture and natural resources	4.2	22.2	5.9	14.6	2.9	6.9
Architecture	12.0	21.4	14.1	22.5	8.3	15.1
Area studies	52.9	56.0	39.0	46.9	17.4	32.0
Biological sciences	29.3	36.4	33.8	33.8	16.3	21.4
Business and management	9.3	23.6	3.9	14.3	2.8	6.3
Communications	35.3	44.3	34.6	44.4	13.1	24.0
Computer and informational science	13.6	23.9	10.3	16.7	2.3	8.8
Education	74.4	72.2	52.2	65.9	21.2	34.8
Engineering	.8	4.5	1.1	4.7	.6	2.8
Fine and applied arts	59.7	61.4	47.4	51.2	22.2	32.5
Foreign languages	74.8	76.2	65.4	66.5	38.0	51.5
Health professions	77.2	79.2	55.4	67.9	16.5	32.0
Home economics	97.3	95.9	93.9	91.1	61.0	77.0
Law	5.0	27.5	4.8	13.2	0	3.3
Letters	61.0	56.7	57.5	59.5	23.5	31.2
Library science	92.0	90.9	81.3	79.6	28.2	30.3
Mathematics	38.1	41.6	29.3	35.1	7.8	13.2
Military science	.3	.3	0	2.3	—	—
Physical sciences	14.0	20.1	13.4	16.6	5.6	9.6
Psychology	44.7	51.7	37.2	48.1	24.0	35.9
Public affairs and services	49.1	45.1	48.8	45.5	24.2	32.8
Social sciences	37.0	39.4	28.5	32.9	13.9	22.1
Theology	27.2	25.7	24.4	31.4	1.9	2.8
Interdisciplinary studies	29.2	47.0	35.2	37.1	15.4	30.6

NOTE: Details may not add to totals because of rounding.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Degrees Awarded to Women: 1977 Update*, 1979.

Chart 6.8
Percent of Degrees Awarded to Females by Level and Selected Discipline Divisions

The proportion of bachelor's and master's degrees awarded to females increased appreciably between 1971 and 1977 in business and management, a traditionally masculine field. Gains in female representation at the master's and doctor's levels were also substantial in traditionally feminine fields, notably, the health professions and education.

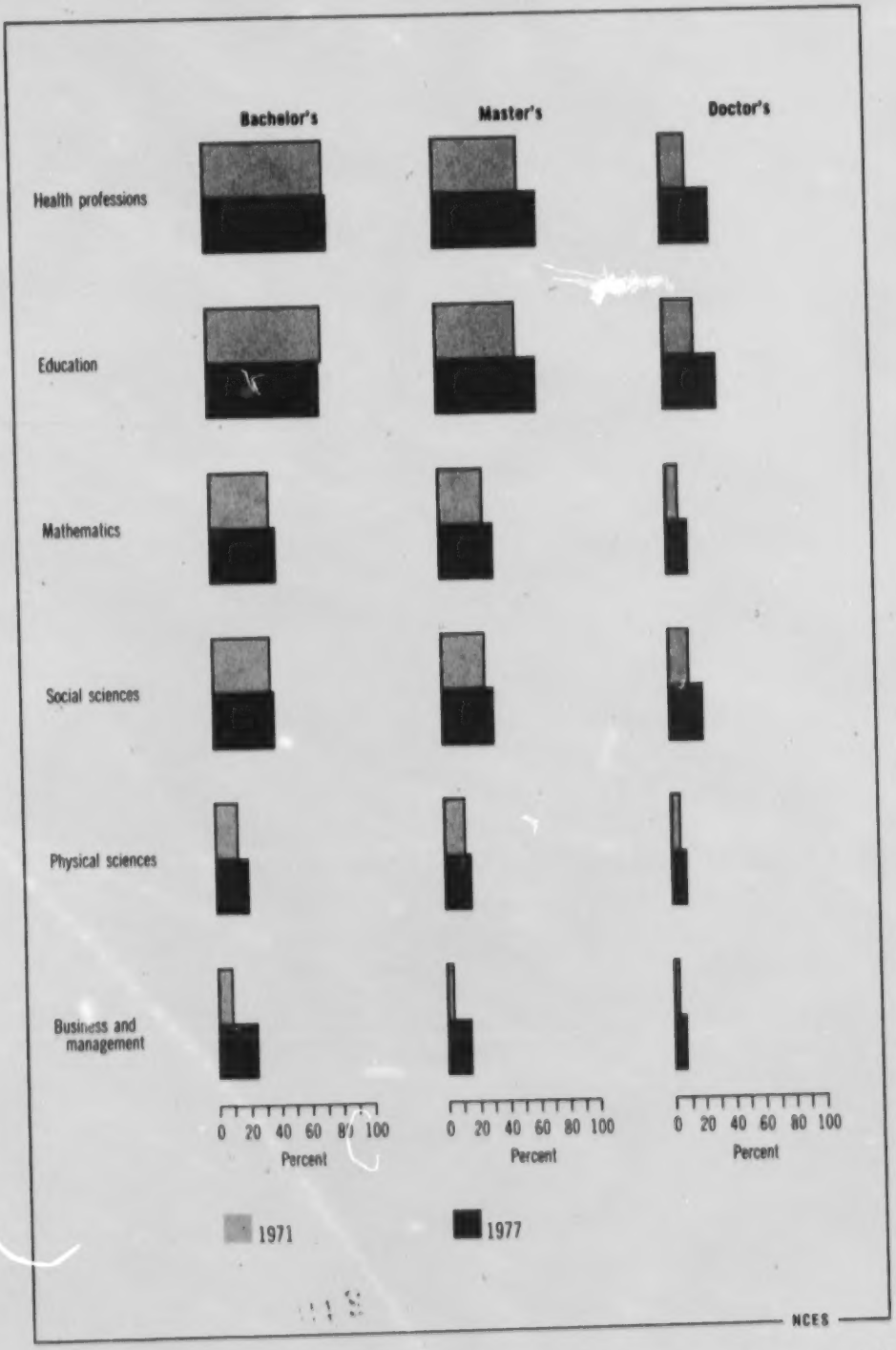

Table 6.9
Percent of females among first-professional degree recipients, by field: Aggregate United States, 1971 and 1977

Field	1971	1977
	Percent female	
Total	6.5	18.7
Dentistry (D.D.S. or D.M.D.)	1.2	7.4
Medicine (M.D.)	9.2	19.2
Optometry (O.D.)	2.4	11.0
Osteopathic medicine (D.O.)	2.3	8.8
Podiatry or podiatric medicine (Pod. D.)	2.1	3.3
Veterinary medicine (D.V.M.)	7.8	22.8
Pharmacy (D. Pharm.)	(1)	27.5
Chiropractic (D.C.)	(1)	8.5
Law, general	7.3	22.5
Theological professions, general	2.3	9.5
Other	21.2	47.8

1 Not included among first-professional fields in 1971.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Degrees Awarded to Women: 1977 Update*, 1979.

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Chart 6.9
Percent of First-Professional Degrees Awarded to Females by Selected Fields

The female share of first-professional degrees nearly tripled between 1971 and 1977. Women, however, continued to comprise less than one-fifth of all first-professional recipients in 1977.

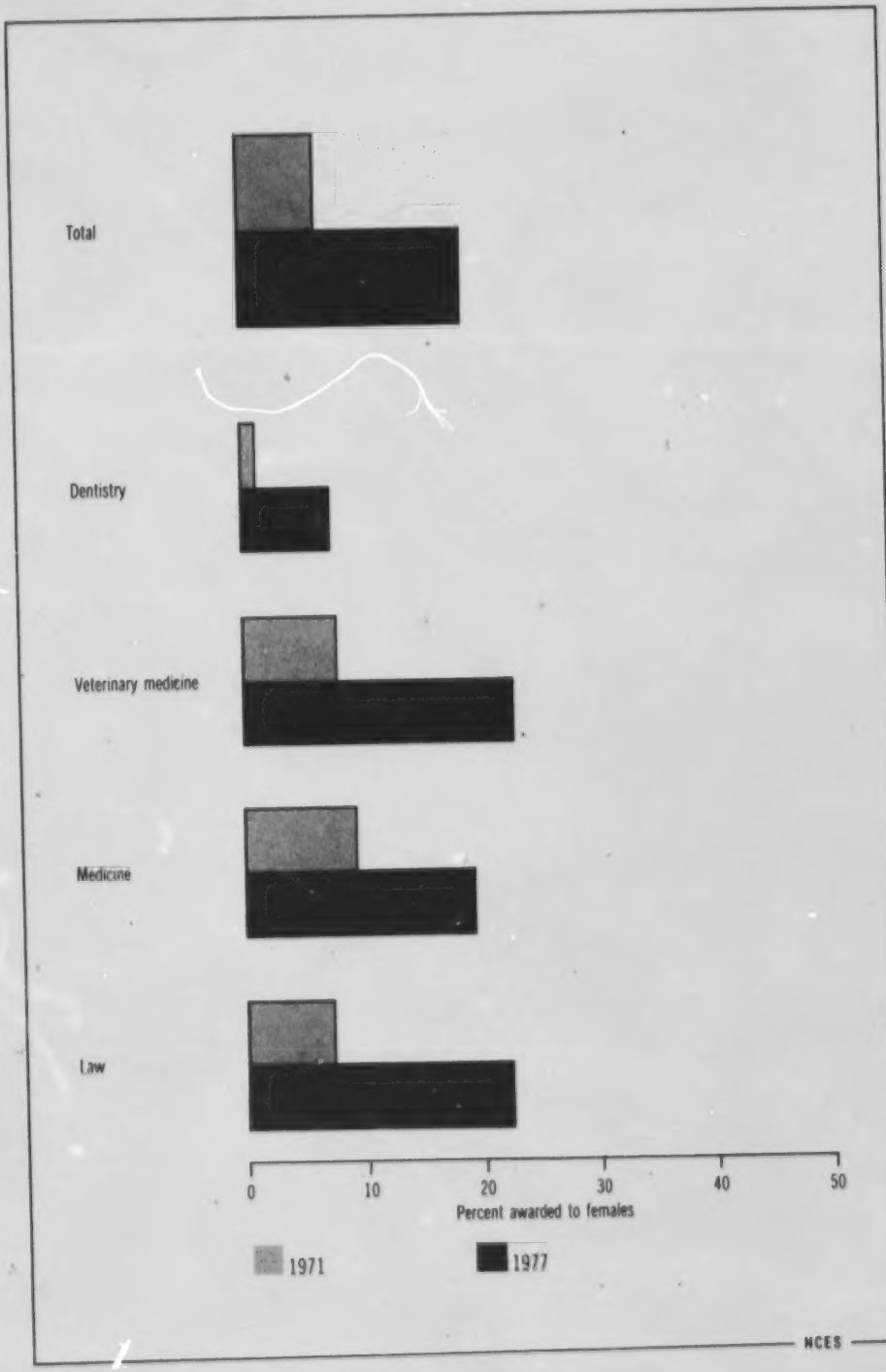

Table 6.10
Median usual weekly earnings in current dollars of full-time wage and salary workers, by racial/ethnic group and by sex: May 1967 to May 1978

Characteristic	May of year											Annual average percent change[1]
	1967	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	
White	$113	$125	$134	$142	$149	$162	$173	$190	$202	$217	$232	6.8
Male	130	146	157	168	172	193	209	225	239	259	279	7.2
Female	79	88	95	102	108	117	125	138	147	157	167	7.0
Black and other	79	90	99	107	115	129	140	156	162	171	186	8.1
Male	90	104	113	123	129	149	160	173	187	201	218	8.4
Female	63	73	81	87	99	107	117	130	138	147	158	8.7
Black[2]	—	—	—	—	—	—	—	—	—	—	181	—
Male	—	—	—	—	—	—	—	—	—	—	213	—
Female	—	—	—	—	—	—	—	—	—	—	156	—
Hispanic[2]	—	—	—	—	—	—	—	—	—	—	174	—
Male	—	—	—	—	—	—	—	—	—	—	201	—
Female	—	—	—	—	—	—	—	—	—	—	141	—

[1] Reflects annually compounded rates of change for the 1967 to 1978 period.
[2] Data for black (exclusive of other races) and Hispanic origin workers are not available prior to 1978. Data on persons of Hispanic origin are tabulated separately without regard to race, which means they are also included in the data for white and black workers. At the time of the 1970 census, approximately 96 percent of their population was white.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *News*, USDL 78-842, 1978.

Chart 6.10
Weekly Earnings of Full-Time Workers by Race and Sex

The advantage that males command in weekly earnings has changed little since 1967. Variation in weekly earnings among females by race is far smaller than disparities in earnings among men by race.

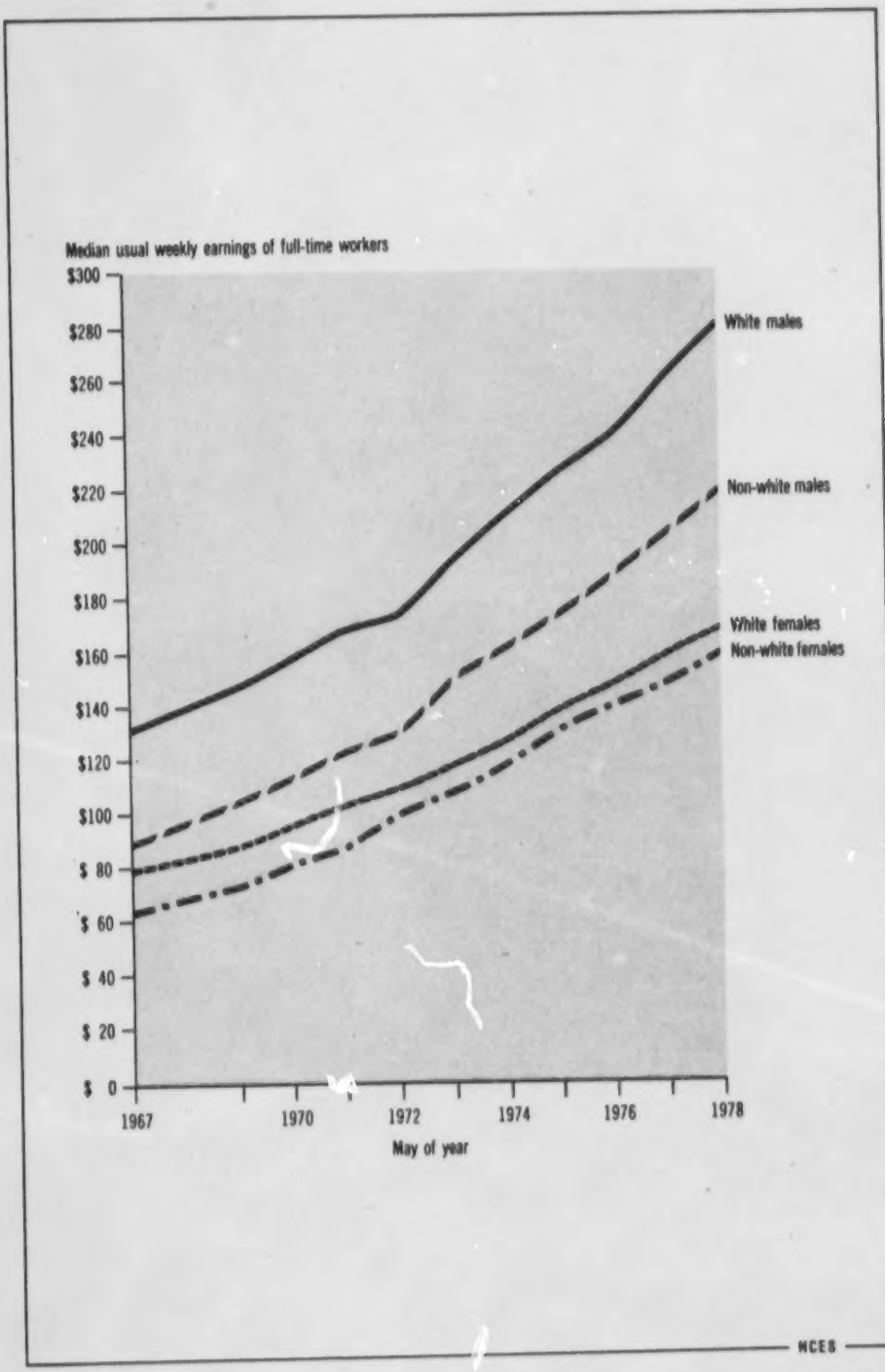

Table 6.11
Median earnings of female year-round full-time workers as percent of those of males, by selected major occupational group: 1965 to 1977

Occupational group	1965	1967	1960	1971	1973	1975	1977
				Percent			
Professional/technical	67.7	66.2	64.9	68.6	63.6	65.9	65.8
Manager/administrator (except farm)	52.2	54.4	53.1	56.2	52.8	56.7	54.2
Clerical	68.1	67.1	65.1	62.4	60.9	62.2	61.6
Sales	42.4	42.4	40.5	43.0	37.8	38.9	42.5
Operative	57.1	57.8	59.1	60.8	56.4	56.1	58.3
Service (except private household)	57.0	56.5	58.9	59.5	57.8	57.1	61.2

SOURCE: U.S. Department of Commerce, Bureau of the Census, Consumer Income, *Money Income and Poverty Status of Families and Persons in the United States*, P–60, Nos. 43, 51, 75, 85, 97, 105, and 116.

Chart 6.11
Salaries of Females Compared to Salaries of Males by Occupation

Within occupational categories of full-time year-round workers, females' earnings continue to be substantially lower than males' earnings. The ratio of female salaries to male salaries is highest among professional and technical workers and lowest among salesworkers.

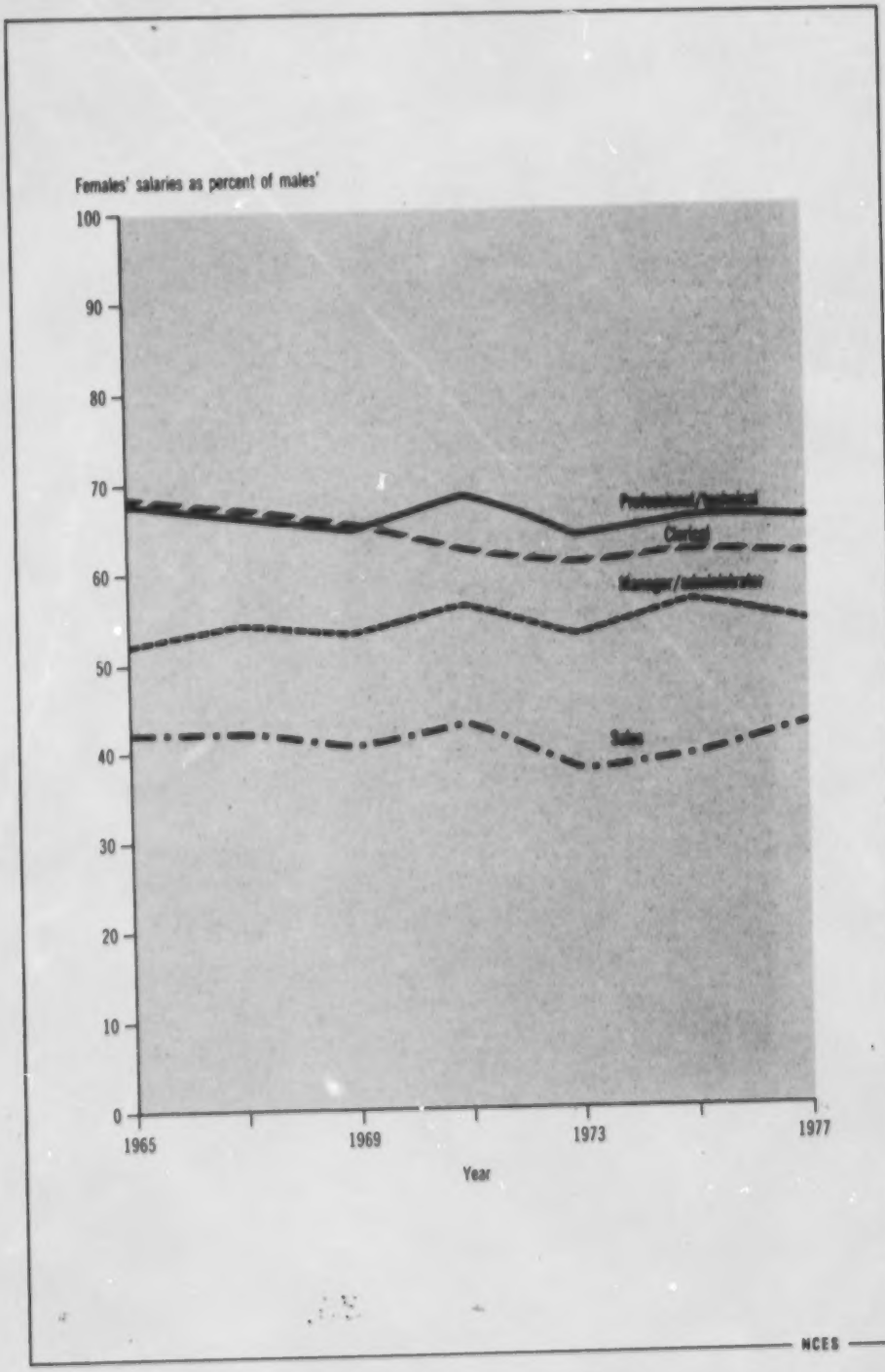

Table 6.12
Average annual[1] salaries of 1967–77 bachelor's and master's degree recipients working full-time, by sex and by racial/ethnic group: February 1978

Characteristic	Average annual salary	
	Bachelor's degree recipients	Master's degree recipients
Total	$11,700	$16,000
White, non-Hispanic	11,700	15,900
Black, non-Hispanic	11,100	17,000
Other[2]	12,900	16,300
Male	12,700	16,900
White, non-Hispanic	12,700	17,000
Black, non-Hispanic	12,000	17,200
Other[2]	14,500	16,100
Female	10,300	14,900
White, non-Hispanic	10,300	14,690
Black, non-Hispanic	10,500	16,800
Other[2]	11,000	16,600

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *1978 Survey of 1976–77 College Graduates*, preliminary data.

Chart 6.12
Salaries of Recent Degree Recipients by Sex and Race

Among recent college graduates working full-time, males have an earning advantage over females. The salary gap between males and females is widest among white graduates. White females earn the least among recent bachelor's and master's degree recipients.

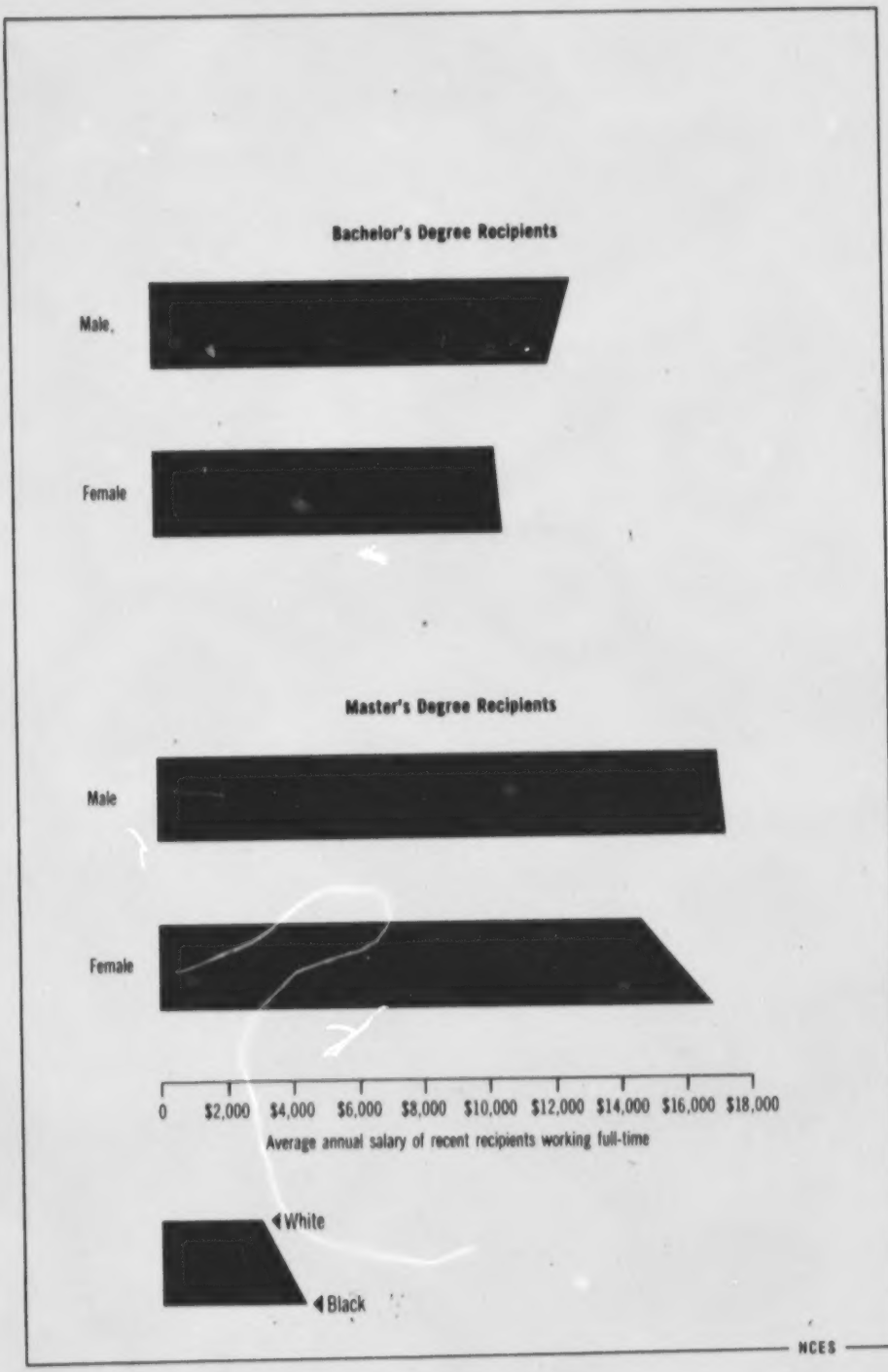

Table 6.13
Average annual [1] salaries and underemployment [2] of 1976–77 bachelor's degree recipients working full-time, by major degree field and sex: February 1978

Major degree field	Total		Male		Female	
	Average salary	Percent under-employed	Average salary	Percent under-employed	Average salary	Percent under-employed
Total	$11,700	21.6	$12,700	23.7	$10,300	19.0
Biological sciences	10,100	21.6	10,200	30.5	10,000	7.8
Engineering	15,200	7.9	15,200	8.4	15,900	0
Physical sciences & mathematics	11,600	14.1	12,000	16.0	10,400	9.4
Psychology	10,700	36.8	11,400	32.0	10,000	41.0
Social sciences & public affairs	11,300	36.3	12,507	40.4	9,200	29.5
Humanities	9,500	32.9	10,300	32.5	8,800	33.2
Business & management	13,200	18.6	13,700	19.9	11,300	14.2
Education	11,100	14.0	11,700	15.9	10,800	13.3
Health professions	12,300	2.5	14,100	3.4	11,900	2.3
Communications	10,200	23.0	11,300	19.7	9,100	26.3
Other	10,500	32.7	11,900	34.1	8,800	31.2

[1] Salaries of teachers working on 9 to 10 month contracts have been adjusted to 12 month salaries.
[2] Bachelor's degree recipients working full-time are defined as underemployed if in a job that is not professional, technical, managerial, or administrative and when asked, responded that job did not require a college degree. Definition includes additional stipulation that they are not enrolled in school.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *1978 Survey of 1976–77 College Graduates*, preliminary data.

Chart 6.13
Underemployment of 1976–77 Bachelor's Degree Recipients by Sex and Selected College Fields

Female salaries tend to be lower across all fields except engineering. However, their underemployment is not as high as male underemployment in most fields.

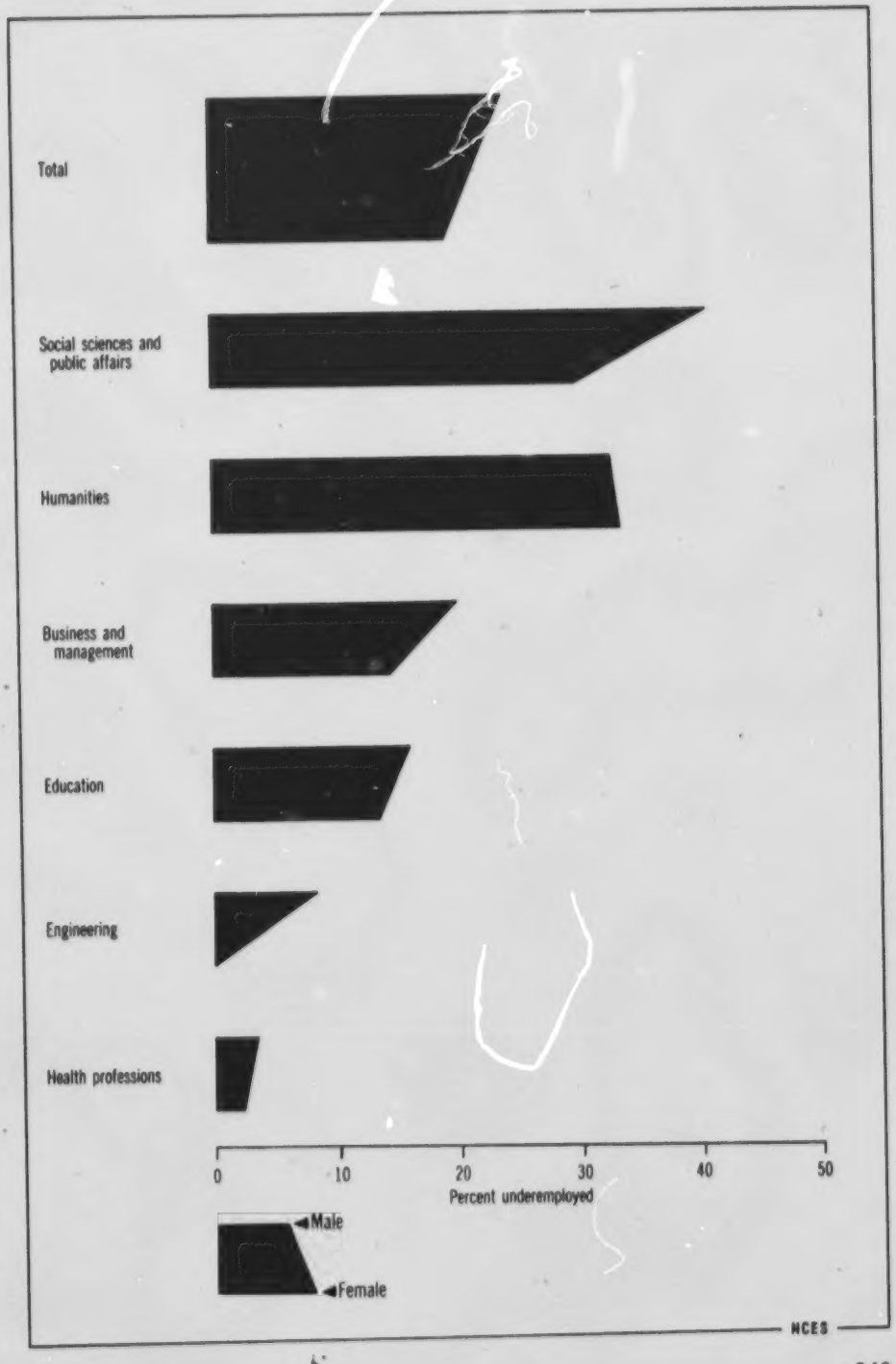

Table 6.14
Average number of high school semester courses in science and math taken in 1972 by entering college students, by sex and by sex-typing[1] of major field in college: 1973

Characteristic	Science courses	Math courses
Total	4.20	4.61
Males entering male-dominated fields	4.83	5.31
Males entering other fields	4.31	4.72
Females entering male-dominated fields	4.46	4.87
Females entering other fields	3.71	4.10

[1] Male-dominated fields were defined as biological sciences, business, engineering, physical sciences, and math.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, Sponsored Report Series, National Longitudinal Study, *Women Who Enter Male-Dominated Fields of Study in Higher Education*, 1978.

Chart 6.14
High School Science and Math Courses Taken by College Students by Sex and Type of College Field

Female college students in male-dominated fields took more high school science and math courses than females in other fields but less than their male counterparts.

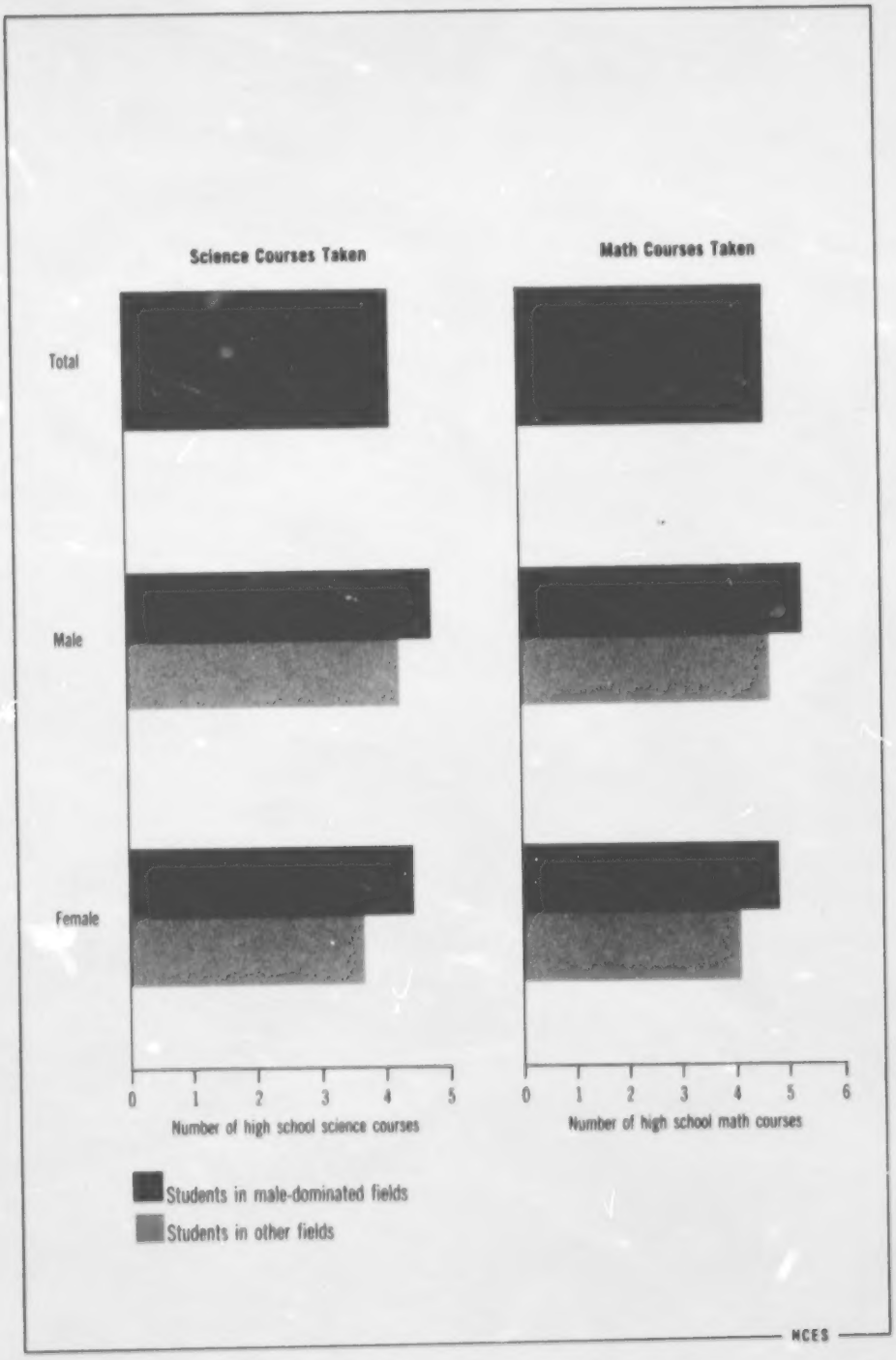

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Table 6.15
Estimated participation in selected traditionally single-sex high school courses, by sex: 1976

Course	Total	Male	Female	Female as percent of total
Home economics	3,588,159	946,180	2,641,977	73.6
Industrial arts	4,069,386	3,111,844	957,542	23.5
Home economics/industrial arts, single sex [1]	409,662	194,665	214,957	—
Math, highest level [2]	1,738,456	889,184	849,272	48.9
Science, highest level [2]	2,512,422	1,299,368	1,213,054	48.3

[1] Home economic or industrial arts classes which are intended for or limited to, students of one sex.
[2] Highest level courses offered at the school.

SOURCE: U.S. Department of Health, Education and Welfare, Office for Civil Rights, *State and National Summaries of Data Collected by the 1976 Elementary and Secondary Civil Rights Survey*, 1978.

Chart 6.15
High School Enrollment in Traditionally Single-Sex Courses

Female high school students comprise about three-fourths of the enrollment in home economics and about one-fourth of the enrollment in industrial arts. Female students represent just under half of the enrollments in math and science at the highest levels offered in high school.

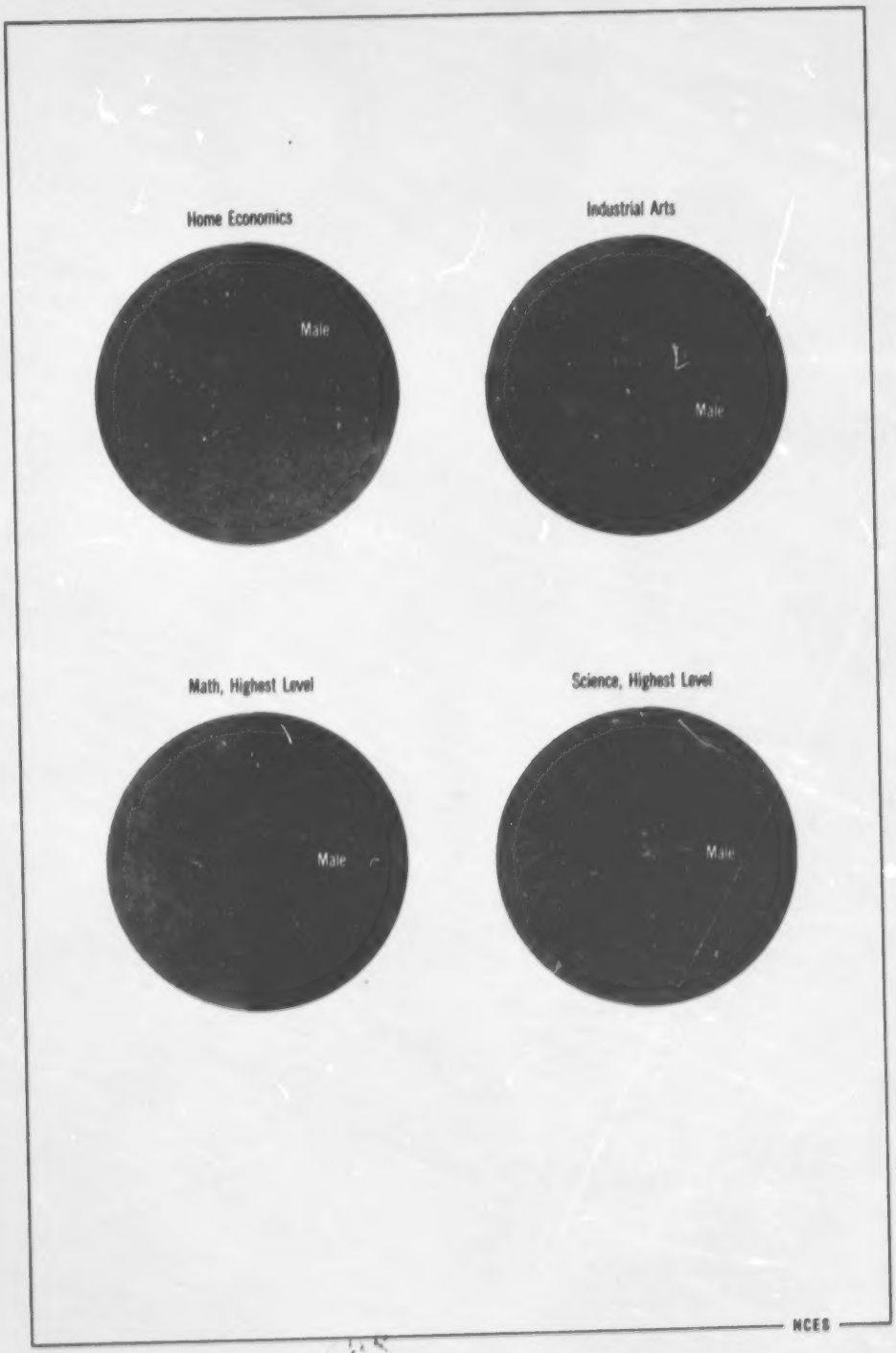


Table 6.16
Estimated percent of institutions[1] with special programs for female or minority graduate students, by type and control: 1978

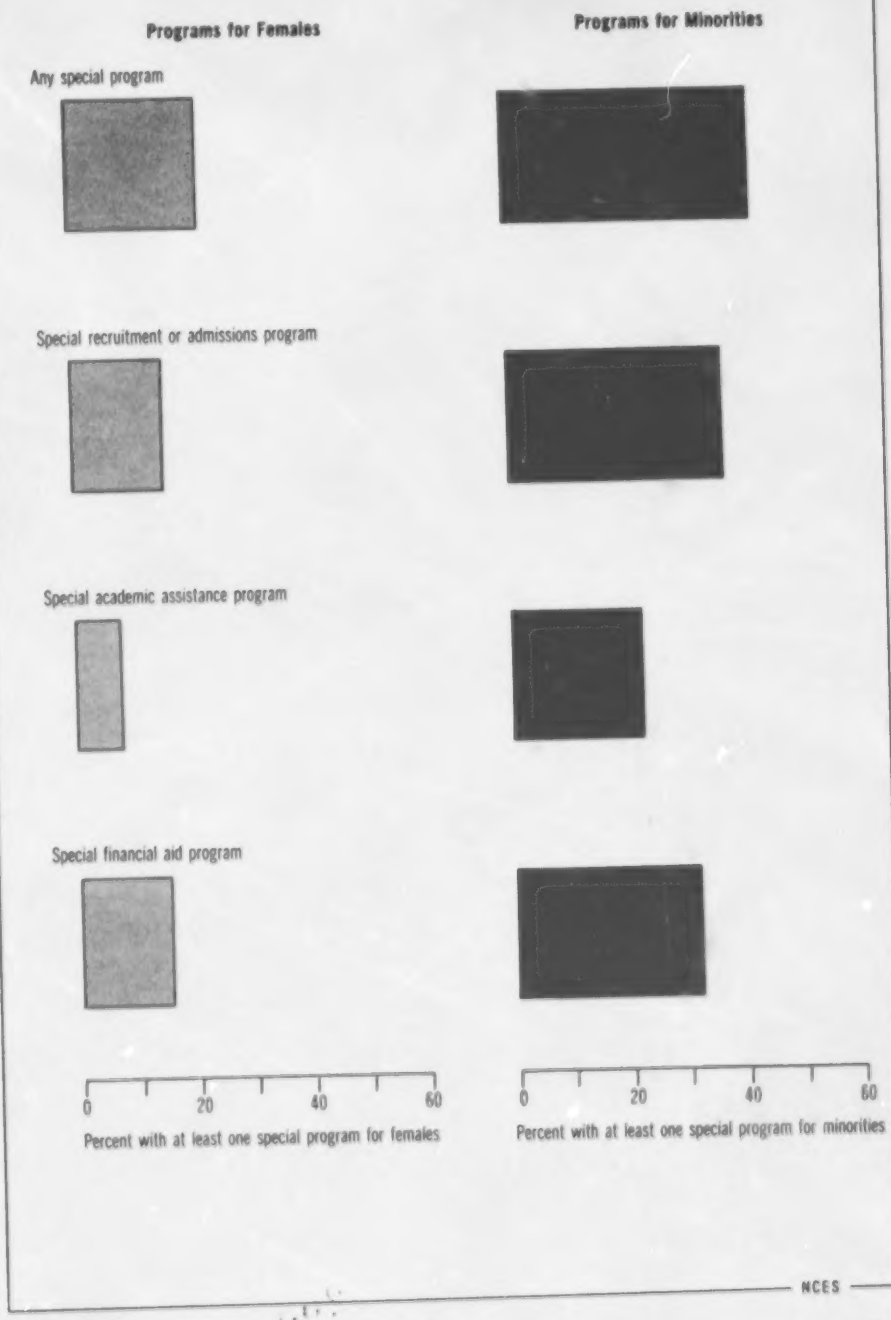
Item	Total institutions	Control	
		Public	Private
		Percent	
Institutions with at least one special program	46.0	60.7	31.7
For women	22.5	26.3	18.7
For minorities	42.8	59.6	26.2
Institutions with at least one special recruitment or admissions program	39.2	52.7	26.2
For women	15.2	18.2	12.2
For minorities	37.5	51.2	24.1
Institutions with at least one special academic assistance program	24.0	30.2	18.0
For women	7.6	9.1	6.1
For minorities	22.6	30.2	15.3
Institutions with at least one special financial aid program	35.3	44.5	26.5
For women	15.7	17.2	13.9
For minorities	32.0	43.2	20.7

[1] The survey population was limited to institutions that awarded a professional degree, a doctorate degree, or other degree beyond the master's.

SOURCE: American Council on Education, Higher Education Panel Reports, *Special Programs for Female and Minority Graduate Students*, 1978.

Chart 6.16
Institutions of Higher Education With Special Programs for Female or Minority Graduate Students

An estimated 43 percent of all graduate institutions offer special programs for minorities and about 23 percent offer special programs for women.



The Condition of Education

III Appendix

Data Sources

The information presented in this report derives from several sources including Federal and State agencies, private research organizations, and professional associations. The data are obtained using several research methods including universe and sample surveys, administrative records, and statistical projections.

Particular care should be taken in comparing data from different sources because of differences in reference periods, operational definitions, and collection techniques. Additionally, all data entries are susceptible to errors such as faulty survey design, incomplete response, incorrect processing, or biased interpretations.

The accompanying guide is designed to acquaint the reader with the sources consulted in the preparation of this report. Government contributions are described first, followed by private research and professional associations. Additional information can be obtained by contacting directly the contributing organization.

National Center for Education Statistics

The National Center for Education Statistics (NCES) is the primary Federal agency for collecting, analyzing, and reporting of education statistics. It further coordinates data acquisition for the Office of Education and the Office for Civil Rights. In addition, NCES assists State data collection activities in an effort to promote efficiency and comparability. The National Center for Education Statistics collects data primarily through census or sample surveys of educational institutions. NCES also conducts some sample surveys of individuals designed to chart the educational experiences and performance levels of young Americans.

Surveys of Educational Institutions

Institutional characteristics obtained through several surveys provide important insights into how schools are organized, supported, and maintained. Data on public elementary and secondary schools are collected annually from State departments of education. Statistics on privately controlled elementary and secondary education are gathered periodically from the universe of non-public schools. Annual surveys are also taken of institutions of higher education. These surveys cover a variety of subject areas including students, faculty, libraries, and finance. Data on noncollegiate and vocational postsecondary education are collected periodically on a sample basis. More detailed information on survey instruments, sampling frames, and methodology can be obtained through the individual reports.

Surveys of Students

National Assessment of Educational Progress (NAEP)

The National Assessment of Educational Progress (NAEP) collects data on achievement of young Americans in several subject areas. The exercises are administered to carefully selected representative groups of 9-year-olds, 13-year-olds, 17-year-olds, and young adults aged 26 to 35. The assessment group of 17-year-olds includes a sample of those not currently enrolled in school. Results are reported for each age level and by region, sex, racial group, parental education, and size and type of community. NAEP uses weighted percentages of correct responses to describe the performance of a group on an exercise. Each reported percentage is an estimate of the percentage of persons in a given group who could have given a certain acceptable response to a specific exercise. For more information on the NAEP design and methodology, see *National Assessment of Educational Progress*, report 03/04–GY, General Information Yearbook (Washington, D.C.: Government Printing Office, 1974).

National Longitudinal Study (NLS)
The National Longitudinal Study (NLS) periodically queries a national sample of the high school class of 1972 to chart the educational, vocational, and personal development of these young Americans. The population consists of all 12th graders enrolled during 1972 in all public and private schools in the 50 States and the District of Columbia.

The original sample design was a deeply stratified two-stage probability sample with schools as first-stage sampling units and students as second-stage units. The first-stage sampling frame was constructed from computerized school files maintained by the Office of Education and by the National Catholic Education Association. The schools were then stratified according to various criteria and randomly selected within strata. Except for schools in low income areas or with high black enrollments and schools with small enrollments, the schools were sampled with equal probability and without replacement. From each selected school, 18 students were randomly chosen to participate.

The base-line survey of the class of 1972 was conducted in the spring of 1972. Three follow-up surveys were conducted in fall 1973, fall 1974, and fall 1976. For additional information concerning the NLS, contact the National Longitudinal Studies Branch, National Center for Education Statistics, 400 Maryland Avenue, S.W., Washington, D.C. 20202.

National Institute of Education
Survey of Public Secondary School Principals
In cooperation with the National Association of Secondary School Principals, the National Institute of Education conducted a nationwide survey of public secondary school principals in 1977. The survey was designed to provide current information on school programs, organizations, and management from the perspective of the administrators directly in charge.

Two thousand schools were randomly selected from all regions of the country and from all metropolitan status areas (urban, suburban, and rural). Schools were selected with probabilities proportional to their 12th grade enrollments. This procedure slightly overrepresented urban schools in number, but not in terms of their share of total enrollment.

The questionnaire was sent to principals during the summer and fall of 1977. Seventy-two percent of the principals responded. The results are presented in *High School '77*, available from the National Institute of Education, Washington, D.C. 20208.

Bureau of the Census
Current Population Survey (CPS)
The Bureau of the Census provides data through a regular program of data collection and through supplements conducted for other organizations. The Census mechanism for data collection cited most frequently in this report is the Current Population Survey (CPS). The data on preprimary education and on educational attainment and labor force participation of the population were collected from the CPS or supplements to it.

The primary purpose of the CPS is to obtain a monthly measure of labor force participation for the Bureau of Labor Statistics. It gathers data on the employment status of the civilian resident noninstitutionalized population 16 years old and over. In addition, it provides monthly population estimates as well as annual data on such characteristics of the population as income, schooling, age, racial/ethnic origin, sex, marital status, and living arrangements. Various governmental agencies utilize CPS to obtain specific information.

The current CPS sample is spread over 461 areas comprising 923 counties and independent cities, with coverage in each of the 50 States and the District of Columbia. Approximately 47,000 occupied housing units comprise the sampling frame sites for interviews each month. Of this number, 2,000 occupied units, on the average, are visited without obtaining interviews because the occupants are not found at home after repeated calls or are unavailable for some other reason. In addition to the 2,000, about 8,000 sample units are visited in an average month but are found to be vacant or the occupants are not available to be interviewed.

National Academy of Sciences
The survey of the characteristics of the nation's doctorate recipients is conducted biennially by the National Academy of Sciences—National Research Council under the sponsorship of the National Science Foundation, the National Endowment for the Humanities, and the National Institutes of Health.

The analysis pertains to 361,300 doctoral degree holders in science, engineering, and the humanities who earned doctorates within the 42-year period 1934 to 1976 and who were residing in the United States in February 1977. Estimates are based on the weighted responses of 50,648 doctoral degree recipients.

Columbia Broadcasting System (CBS) News
The CBS News organization conducted a poll on education in June of 1978. The nationwide random survey of 1,622 adults dealt with a range of topics and was the basis of the CBS special broadcast *"Is Anyone Out There Learning?"* Additional information is available from CBS News, 524 West 57th St., New York, New York 10019.

Gallup Poll
Public Attitudes Toward the Public Schools Survey
Through funding provided by the Institute for Development of Educational Activities, Inc. (I/D/E/A), the Gallup Poll conducts annual surveys of the public's attitudes toward education. Each year the Poll interviews approximately 1,600 adults, representative of the civilian noninstitutional population 18 years old and over. A full description of the sampling methodology appears in "The Tenth Annual Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan,* September 1978.

Attitudes of America's Youth Toward the Public Schools Survey
Conducted jointly by the Gallup Poll and Charles F. Kettering Foundation/I/D/E/A, the survey polled a nationally representative sample of American teenagers about their attitudes toward education. A total of 1,115 13- to 18-year-olds, excluding those living in institutions or in the armed forces, were interviewed by telephone in November of 1978. Further information is available in the advance report "The Attitudes of America's Youth Toward the Public Schools".

National Opinion Research Center
The National Opinion Research Center biennially collects information on the characteristics and opinions of the adult noninstitutional population. Through its General Social Survey, it interviews approximately 1,500 English-speaking persons 18 years old and over, on their attitudes toward a variety of concerns. The survey instrument, a description of the methodology, and the data marginals appear in *General Social Survey, 1972–78, Cumulative Codebook,* July, 1978, published by the National Opinion Research Center/University of Chicago.

National Education Association
Every 5 years since 1956, the National Education Association has conducted a nationwide survey of public school teachers. From questionnaires completed by a probability sample of classroom teachers, the survey reports on the composition of the teaching profession and on conditions in the teaching field. The sampling procedures, survey instrument, and findings are presented in the report, *Status of the American Public School Teacher 1975–76,* available from the National Education Association.

The Roper Organization
The Roper Organization surveyed the responses of 2,007 men and women over 18 years of age for its poll, "The American Public and the Income Tax System". The sample was stratified by county population and individuals were chosen at random from geographic subunits.

American College Testing Program
The ACT Assessment is a comprehensive evaluative, guidance, and placement service for students and educators involved in the transition from high school to college. The ACT Assessment measures abilities in the four subject areas traditionally identified with college and high school programs: English, mathematics, social studies, and natural sciences. ACT test scores are reported on a standard scale that ranges from 1 to 36. On this scale, a student's true score is usually within two score points on either side of the score reported for each of the four tests. Additional information is available from American College Testing Program, P.O. Box 168, Iowa City, Iowa 52240.

General Mills, Inc.
American Family Report
The Consumer Center of General Mills, Inc. sponsored a nationwide study of the American family conducted by Yankelovich, Skelly and White, Inc. The study was designed to provide information on many aspects of parent-child relationships including discipline, health, money, nutrition, the roles of television and advertising, schools and education, the impact of working mothers, and the transmission of values from parent to child.

The results were based on a national probability sample of 1,230 families and a total of 2,102 interviews including 403 interviews with the other parent in the same household and 469 interviews with children between the ages of 6 and 12 in the households surveyed. Further information about the study is available from General Mills, Inc. 9200 Wayzata Boulevard, Minneapolis, Minnesota 55440.

College Entrance Examination Board (CEEB)
Scholastic Aptitude Test Program (SAT)
The Scholastic Aptitude Test has been used since the 1920's to help determine high school students' apparent preparedness for college. Given in different editions several times a year at locations all over the country, the SAT is taken primarily by seniors but also by a large number of juniors and by a few others. The roughly one million young people in each high school senior class who take the SAT represent approximately a quarter of their age group as a whole and about half of the number going on to college. Further information is available in *College-Bound Seniors, 1978* from the College Entrance Examination Board.

Advanced Placement Program (AP)
The Advance Placement Program, which the College Board has sponsored since 1955, offers secondary school students an opportunity to study one or more college-level courses and then, depending on examination results, to receive advanced placement, credit, or both when they enter college. The program provides AP course descriptions and examinations in 11 disciplines: American history, biology, chemistry, English, European history, French, German, Latin, mathematics, physics, and Spanish. The Educational Testing Service administers the three hour examinations to AP candidates each May. Readers from schools and colleges then grade the examinations on a five-point scale: 5, extremely well qualified; 4, well qualified; 3, qualified; 2, possibly qualified; or 1, no recommendation. It is then up to the college to decide whether and how it will recognize the candidate's qualifications. Additional information can be obtained from the College Entrance Examination Board, 65 East Elizabeth Ave., Bethlehem, PA 18018.

College Placement Council (CPC)

Salary Survey

The CPC Salary Survey reports beginning salary data based on offers (not acceptances) made to both male and female graduating students at all degree levels in selected curricula and graduate programs during the normal recruiting period, September to June, as submitted by a representative group of 158 colleges throughout the United States. The survey covers job openings in a broad range of functional areas, except teaching, within employing organizations in business, industry, government, and non-profit and educational organizations, and maintains confidentiality for the individual, the college, and the employer.

The survey reports, issued three times a year, are provided as member and subscriber services of the College Placement Council. Further information about the service is available from the College Placement Council, P.O. Box 2263, Bethlehem, PA 18001.

American Council on Education

American Freshman Survey

Sponsored by the American Council on Education (ACE), the annual survey of college freshmen is administered through the Cooperative Institutional Research Program at UCLA. Since 1966 the survey has collected biographic and demographic data on career plans, educational aspirations, financial arrangements, and current attitudes. The 1978 survey obtained usable information from 187,603 freshmen in 383 institutions of higher education listed with the Office of Education. Only data from institutions whose coverage of entering students was judged representative were used. The weighted data reflect the responses of first-time, full-time freshmen obtained during the initial weeks of the fall term. A full discussion of the design and sampling procedures is provided in *The American Freshman: National Norms For Fall 1978*, available from the Cooperative Institutional Research Program, UCLA.

Higher Education Panel Survey of Special Programs for Females and Minority Graduate Students

The Higher Education Panel Survey of the American Council on Education is a continuing survey research program that was initiated in 1971. Its purpose is to conduct small-scale surveys on topics of current policy interest to the higher education community and government agencies.

For this particular survey, the population was limited to colleges and universities that award a professional degree, a doctorate degree, or some other degree beyond the master's. Further restrictions were that the institutions be coeducational and predominantly white to assure that responses about programs for women and minorities would have a single, uniform meaning. The survey instrument was mailed to the 343 Panel members meeting these requirements and usable data were received from 311 institutions, for a response rate of 91 percent. National estimates were obtained by weighting each response within each stratification cell, by the ratio of the number of institutions in the population to the number that responded. Additional information about the survey results and methodology is contained in the publication *Special Programs For Female and Minority Graduate Students* available from the Higher Educational Panel, ACE.

Definitions of Selected Terms

Adult education: Organized instruction including correspondence courses and private tutoring, ordinarily under the auspices of a school, center, or community organization, and generally with a predetermined end result which may be a certificate, diploma, or degree. Participants in adult education are persons beyond compulsory school age (17 and over) who are not enrolled full-time in a regular school or college program but who are engaged in activities of organized instruction.

Aggregate United States: The 50 States, District of Columbia, and outlying areas—American Samoa, Canal Zone, Guam, Puerto Rico, the Virgin Islands, and the Trust Territory of the Pacific Islands. Several NCES surveys report data for the aggregate United States. Unless otherwise noted, data pertain to the 50 States and the District of Columbia.

Auxiliary enterprises (higher education): Services to students, faculty, or other staff for which a fee is charged that is directly related to, but not necessarily equal to, the cost of service (e.g., dormitories, food service, and student stores).

Average daily attendance: Aggregate days attendance during a regular school term divided by the number of days school was in session.

Bachelor's degree: Lowest degree conferred by college, university, or professional school, requiring 4 or more years of academic work.

College enrollment: Enrollment in a course which leads to a bachelor's, master's, professional, or doctorate degree, excluding vocational certification used in the Current Population Survey.

Constant dollars: Financial data which have been adjusted by means of price and cost indexes to eliminate inflationary factors and allow direct comparison across years.

Current dollars: Financial data which have not been adjusted to compensate for inflation.

Direct expenditures: Payment to employees, suppliers, contractors, beneficiaries, and other final recipients of governmental payments, i.e., all expenditures other than intergovernmental expenditures.

Doctor's degree: Highest academic degree conferred by a university, including Ph.D. in any field, doctor of education, doctor of juridical science, and doctor of public health (preceded by professional degree in medicine or sanitary engineering).

Dropouts: Persons not enrolled in school and not high school graduates.

Elementary education: Formal education organized by grade, composed of a span of grades not above grade eight.

Expenditures: For elementary and secondary schools, all charges for current outlays for education, plus capital outlays and interest on school debt. For institutions of higher education, current outlays plus capital outlays. For government, net of recoveries and other correcting transactions—other than for retirement of debt, investment in securities, extension of credit, or as agency transactions. Government expenditures include only external transactions such as the provision of perquisites or other payments in kind. Aggregates for groups of governments exclude intergovernmental transactions among the governments.

Family: A unit consisting of a household head and one or more other persons living in the same household who are related to the head by blood, marriage, or adoption; all persons in a household who are related to the head are regarded as members of his (her) family.

First-professional degree: An academic degree which requires at least 2 academic years of previous college work for entrance and at least 6 academic years of college work for completion. Beginning in 1965-66, NCES classification includes the following degrees: law (LL.B. or J.D.); dentistry (D.D.S. or D.M.D.); medicine (M.D.); veterinary medicine (D.V.M.); chiropody or podiatry (D.S.C. or D.P.); optometry (O.D.); osteopathy (D.O.); pharmacy (D. Pharm.); and theology (B.D.).

First-time students: Students not previously enrolled in any institution of higher education.

Full-time instructional faculty: Those members of the staff who are employed on a full-time basis and whose major regular assignment is instruction.

Full-time students: Students enrolled in courses with credits equal to at least 75 percent of the normal full-time course load.

Geographic region: Regions used by the Bureau of Economic Analysis, U.S. Department of Commerce:

Northeast
Connecticut
Delaware
District of Columbia
Maine
Maryland
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

Southeast
Alabama
Arkansas
Florida
Georgia
Kentucky
Louisiana
Mississippi
North Carolina
South Carolina
Tennessee
Virginia
West Virginia

Central
Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

West
Alaska
Arizona
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oklahoma
Oregon
Texas
Utah
Washington
Wyoming

The same regional scheme is used by the National Assessment of Educational Progress and the Bureau of the Census (for data on education participation).

The elementary and secondary school data from the Office for Civil Rights pertain to the contiguous United States and follow the regional classification scheme below:

Northeast
Connecticut
Maine
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

Border
Delaware
District of Columbia
Kentucky
Maryland
Missouri
Oklahoma
West Virginia

South
Alabama
Arkansas
Georgia
Florida
Louisiana
Mississippi
North Carolina
South Carolina
Tennessee
Texas
Virginia

Midwest
Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

West
Arizona
California
Colorado
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

Head of family: The husband is designated as the head of two-parent families whether or not he is the chief wage earner in Bureau of the Census enumerations.

Higher education: Study beyond the secondary school level at an institution that offers programs terminating in an associate, baccalaureate, or higher degree.

Master's degree: An academic degree higher than a bachelor's but lower than a doctor's. All degrees classified as first-professional are excluded.

Minimum competency testing: Measuring the acquisition of competence or skills to or beyond a certain defined standard.

Modal grade: The grade in which most children of a given age are enrolled.

Noncollegiate postsecondary school: An institution beyond the high school level which does not offer programs terminating in an associate, baccalaureate, or higher degree.

Occupational education: A non-academic program generally directed toward training of a specific job skill.

Preprimary program: A set of organized educational experiences intended for children attending prekindergarten and kindergarten classes. Such programs may be offered by a public or nonpublic school or by some other agency. Children enrolled in Head Start programs are counted under prekindergarten or kindergarten, as appropriate. Institutions which offer essentially custodial care, such as day care centers, are not included.

Proprietary school: An educational institution operated for profit.

Racial/ethnic group: Classification based upon self-identification of the individual.

Regular day schools: Schools that satisfy the requirements of State education laws and offer at least one grade beyond kindergarten. Not included in this category are residential schools for exceptional children, Federal schools for Indians, federally operated schools on Federal installations, and subcollegiate departments of institutions of higher education.

Revenues: All amounts of money received by an institution from external sources, net of refunds, and correcting transactions. Noncash transactions such as receipt of services, commodities, or other receipts "in kind" are excluded, as are funds received from the issuance of debt, liquidation of investments, and nonroutine sale of property.

School district: An educational agency at the local level which exists primarily to operate public schools or to contract for public school services. This term is used synonymously with the terms "local basic administrative unit" and "local education agency."

Secondary education: Formal education organized by subject matter taught, composed of junior high and/or high schools.

Student charges: Charges for tuition, required fees (matriculation, laboratory, library, health, etc.), room, and board. Charges for books are excluded.

Student education (higher education): Activities which are most closely related to instruction. Includes instruction and research which are part of regular instructional services (departmental research), extension and public service, libraries, physical plant operation and maintenance, general administration, and other sponsored activities.

Traditional black institution: One of 106 institutions of higher education established specifically for the education of blacks.

Underemployment: Full-time employment of a college graduate in a job that is not professional, technical, managerial, or administrative, and does not require a college degree according to the graduate.

Undergraduate students: Degree credit or non-degree credit students who have not received formal recognition as having completed the prescribed degree credit or non-degree credit requirements of an accredited institution of higher education.

Unemployment rate: The number of unemployed persons as a percent of the civilian labor force.

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